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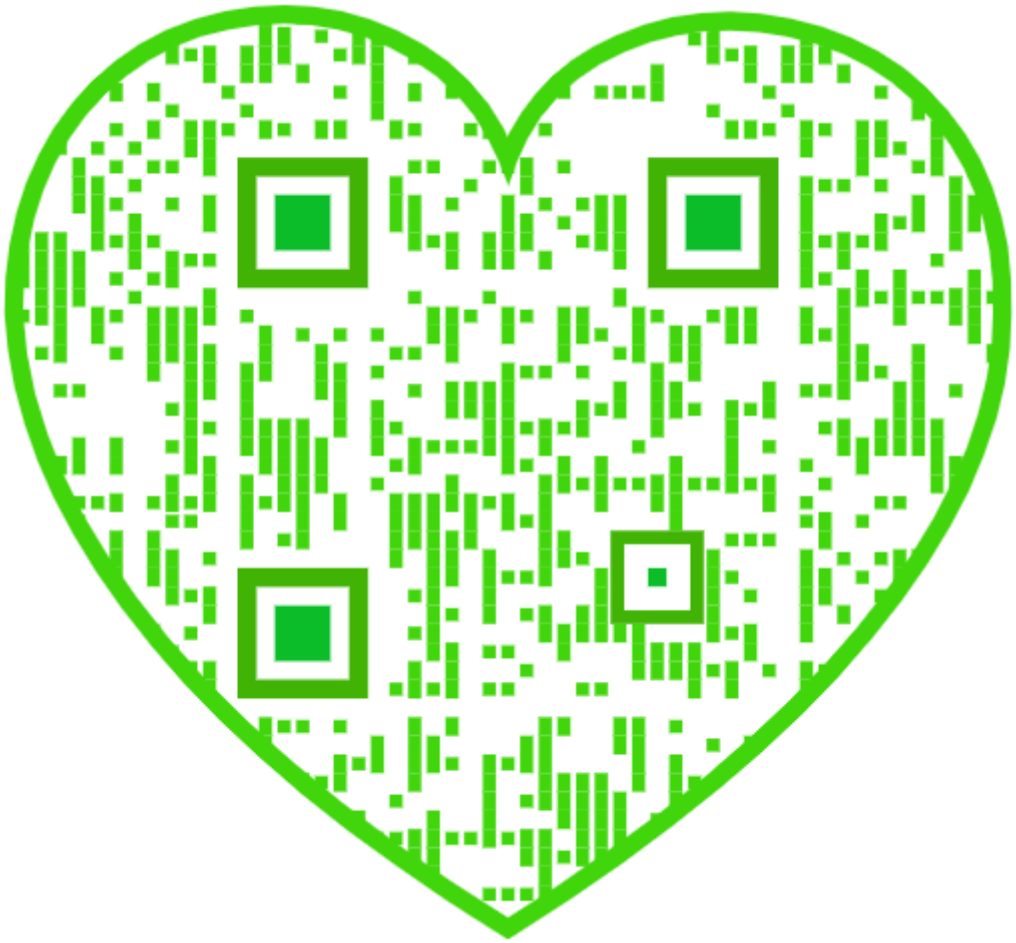

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THE NEW HORTICULTURE 1906

R·M·KELLOGG'S
GREAT CROPS OF STRAWBERRIES
AND HOW HE GROWS THEM

A TEXT BOOK FOR PROGRESSIVE FRUIT GROWERS.

THE LARGEST CROPS, THE FINEST FRUIT, THE LEAST LABOR.

A TREATISE ON PLANT PHYSIOLOGY & THE LAWS WHICH GOVERN THE DEVELOPMENT OF FRUIT.

THREE RIVERS, MICH.

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PEDIGREE

The pedigree of a plant must be known in scientific propagation, because it requires several years to breed up and develop it, and the line of ancestry must not be broken by propagating from any weak plant.

A THOROUGHBRED PLANT

A thoroughbred plant is one possessing the best characteristics of its variety, the result of growing them continuously under the most favorable environments and accumulating good qualities through annually selecting the desirable variations and discarding weaklings and restricting to prevent pollen and seed exhaustion, thus preserving a perfect balance between vegetative parts and its fruit producing organism

THE PEDIGREE OF THESE PLANTS

The pedigree of each plant offered in this catalog, unless otherwise stated in the description, shows the ancestry in lineal ascent to have been thoroughbred, as above stated, and they are believed to be perfect in their physical and fruiting organism in all respects.

COMMON PLANTS

Common plants are those grown under ordinary conditions, without any systematic selection of bud variations, and for the want of proper restriction are more or less pollen exhausted and therefore have a strong tendency to make runners rather than strong fruit buds. They do not give uniformity of quality to fruit under any system of tillage that can be used.

THE CAUSE AND EFFECT

We have pointed out the cause of unfruitfulness in plants and given the effectual remedy as proven by repeated definite experiments, which may be summed up as follows:

The most congenial environments to induce better variations, and continuously selecting those making the greatest improvement, and keeping them under restricted fruitage to develop their fruit producing organism These methods have met the warmest approval of the highest horticultural experts in the country, and especially that of the International Conference of Plant Breeders. We have been the pioneers in this work, and have the only establishment in the country having perfect conditions for plant breeding.

STOCK FOR PROPAGATION

We make a specialty of furnishing fruit growers with Thoroughbred Plants for their propagating beds, from which they can grow perfect plants which are able to respond to high culture, with large berries and plenty of them, as well as for general planting.

THE DEMAND

Up to this time the demand has been beyond our ability to supply. Wherever they have been seen in fruit under good cultivation, they have created a sensation, and in order to meet this demand, we have discontinued propagating all other plants, and this year offer a stock several times greater and much finer than ever before, but indications are that the rush for them will be equally great, and so orders must be filled in the rotation received. Orders should, therefore, be booked as early as possible. Our customers are always leaders on the markets.

THE PHOTOGRAPHS

Typical specimens of each variety were photographed in the season of 1904 and engraved to show the size and form of the berries of different varieties, but the camera cannot do them justice, as the beautiful color, delicious flavor and firm texture cannot be put in the picture.

The seeming uniformity of berries of different varieties arises out of continued selection of those approaching the most nearly to the ideal type It is the result of skillful propagation through a series of years.

Copies of this book will be sent free to any four of your friends, with your name and compliments written on each book, so they will know that you sent it. Send in their names. They must be persons interested in berry growing.

VISITORS

Visitors are most cordially welcomed at our grounds at any time. You will be entertained free and conducted through the grounds by ourselves.

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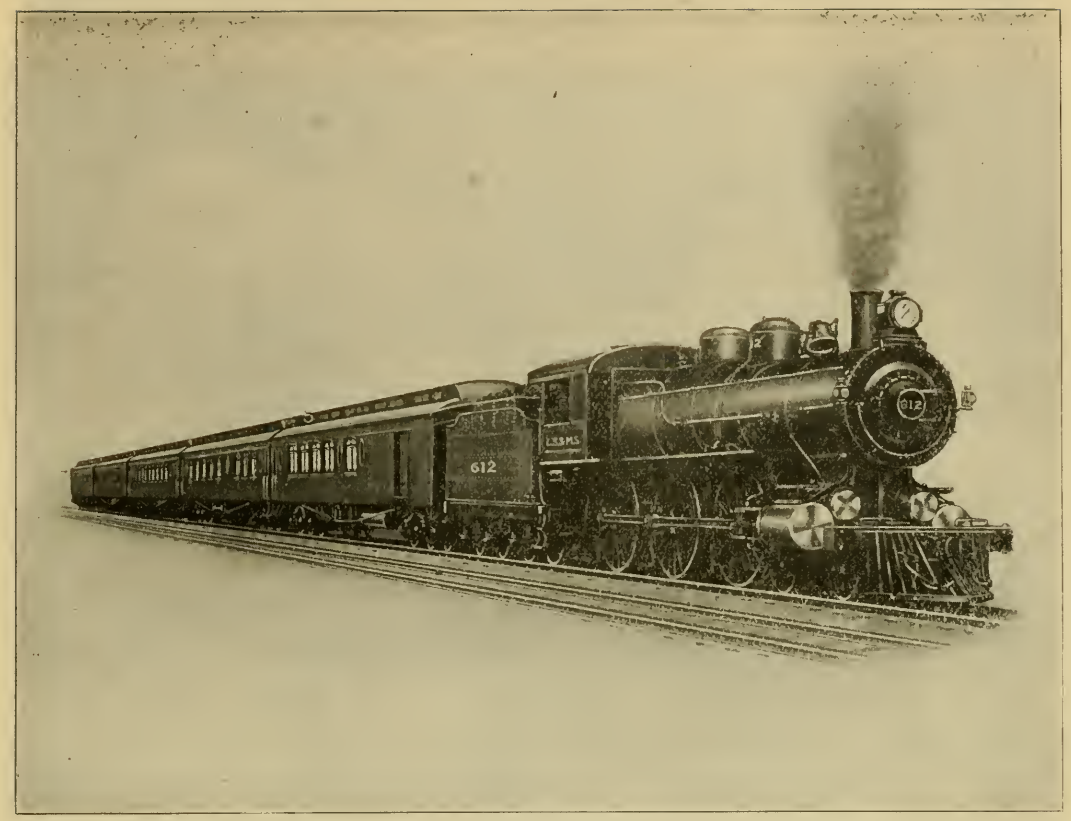
Ihling Bros. & Everard, Kalamazoo, Mich., Printers of catalogs and other things.



THE TWENTIETH CENTURY LIMITED ON THE LAKE SHORE AND MICHIGAN SOUTHERN R. R.

Mr. C. M. Hovey, a pioneer horticulturist, with a shrewdness that was most remarkable in the breeding of plants as early as 1834 selected parent plants representing distinct ideals adapted to American conditions; at that time a journey across the continent required more than a half year, with its attendant privations and hardships.

In this year of 1905 one can step aboard a palatial train in Boston, New York, or Philadelhia, and in a little more than four days stand on the shores of the Pacific, having enjoyed during the trip all the luxuries and conveniences of home. The active horticulturist has likewise kept fully abreast with the civil and mechanical engineer in the onward progress of the world.

Until the middle of the sixteenth century the masses believed the earth to be the center of the planetary system and around it revolved the sun and other planets. A century later, the astronomer, Galileo, with the aid of the telescope, demonstrated beyond a doubt the truth concerning the solar system; that is, that the earth and other planets move with precision around the sun.

But the facts of astronomical science as set forth by Galileo were contrary to the beliefs and traditions of the wise men of the time, and through the intrigues of the latter, the truth seeking astronomer was summoned before the Inquisition at Rome to answer to charges made against him, namely, that of setting aside these beliefs and traditions and replacing them with facts experimentally demonstrated.

The scientist was tried and condemned; but it was as true then as now that "Truth crushed to earth shall rise again," for observing men took up the work which Galileo had begun and today the fact that the world moves is unquestioned.

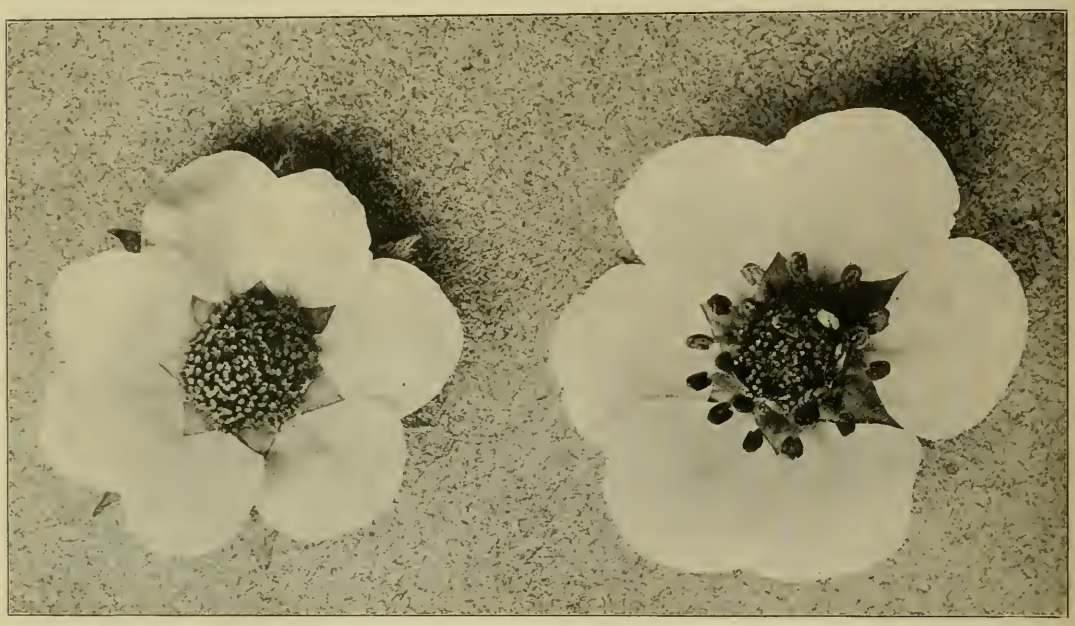
Within the last decade in the states of Minnesota and the Dakotas the yield of wheat has been increased over twelve per cent. per acre by scientifically selecting and breeding seed wheat, thus adding millions of bushels to the annual crop; and even more has been accomplished by the same means in the past few years in the increased yield of corn in Illinois, Iowa, Kansas and adjoining states.

The American Beauty Rose is a creation of the plant breeder, for nature gave to him only the wild rose of the wayside, and the magnificent Beauty of garden and conservatory is the result of his art.

Within the recollection of the pioneer gardener of today there was cultivated the "love apple" which was small and seedy and not considered edible; from this vegetable which was grown merely as a curiosity, has been developed the fleshy, palatable tomato, the use of which on the table is nearly universal.

The Chilian wild strawberry, the ancestor of the large, luscious garden and field berry now grown, was an inferior fruit, but in the hands of the plant breeder has been brought to its present almost perfect condition.

Since the improvement and development both in quality and quantity of grains, flowers, vegetables, and fruits are everywhere so mark-



PISTILLATE FLOWER P

The pistillate flower, P, has few or no stamens or male organs and produces no polen, therefore must have a bi-sexual or male flower set every third row so that wind or insects will carry pollen to it.

BI-SEXUAL B

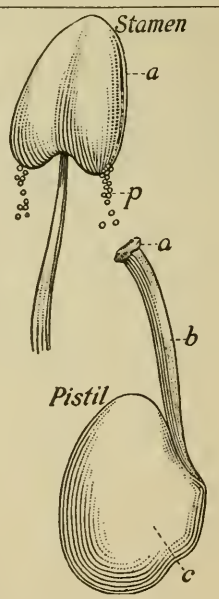
Bi-sexual, B Perfect flower. The stamens or male organs surround the central cone of pistils, each one having an anther which furnishes the pollen. This is carried by insects or the wind to the pistillates. The bi-sexual varieties will fruit without the presence of other varieties.

ed, it seems passing strange that the science of plant breeding should be questioned by a doubt; but the **Horticultural World,** as well as the terrestrial, **moves,** and every enthusiastic, enterprising fruit grower recognizes the fact and profits by it and so leads the multitude of doubting followers who wonder at his work and success.

Tillage and nurture have been practiced for centuries and have greatly improved the conditions of primal nature, but the science of plant breeding which has been practiced scarcely the brief space of a man's lifetime has worked a revolution in horticultural art. It has not only increased the amount and improved the quality of field and garden products but it is constantly adding new and improved varieties and even new kinds altogether.

The Webber, the new citrus fruit which will grow many degrees north of either the orange or lemon, is the product of a plant marriage between the hedge orange of Japan and the sweet orange of Florida, and is also a creation of the plant breeder's art; likewise in the "tangelo," the result of a union of tangerine orange and the grape fruit, we find the desirable characteristics of both parents.

One cannot learn of the work of Mr. Luther Burbank, the justly called Horticultural Wizard, without being amazed as well as interested. Into a large showy flower having an unpleasant odor he puts a delicate, fragrant scent; he expels the pit from a plum, causing its place to be taken by a "substance, rich, juicy and sweet;" he unites in a new fruit the California dewberry and the Siberian raspberry and gives the world the primus berry,



The sexual organs of the strawberry enlarged to show the process of fertilization. The anther of the stamen bursting, letting the pollen containing the male life germ "a" fall out, lodging on the stigma of the pistil "a," where the life germ of male is carried by a tube through the style "b" to seed pod or ovaries "c," where the female germ is located, and here the two life germs are merged into one in the seed (egg). It is substantially the same process in all animal life.

which is nothing less than a marvel of creation. The fundamental principal in Mr. Bur-

PLANT SELECTION. HORTICULTURAL STUDENTS TAKING A LESSON IN PLANT BREEDING ON OUR GROUNDS.

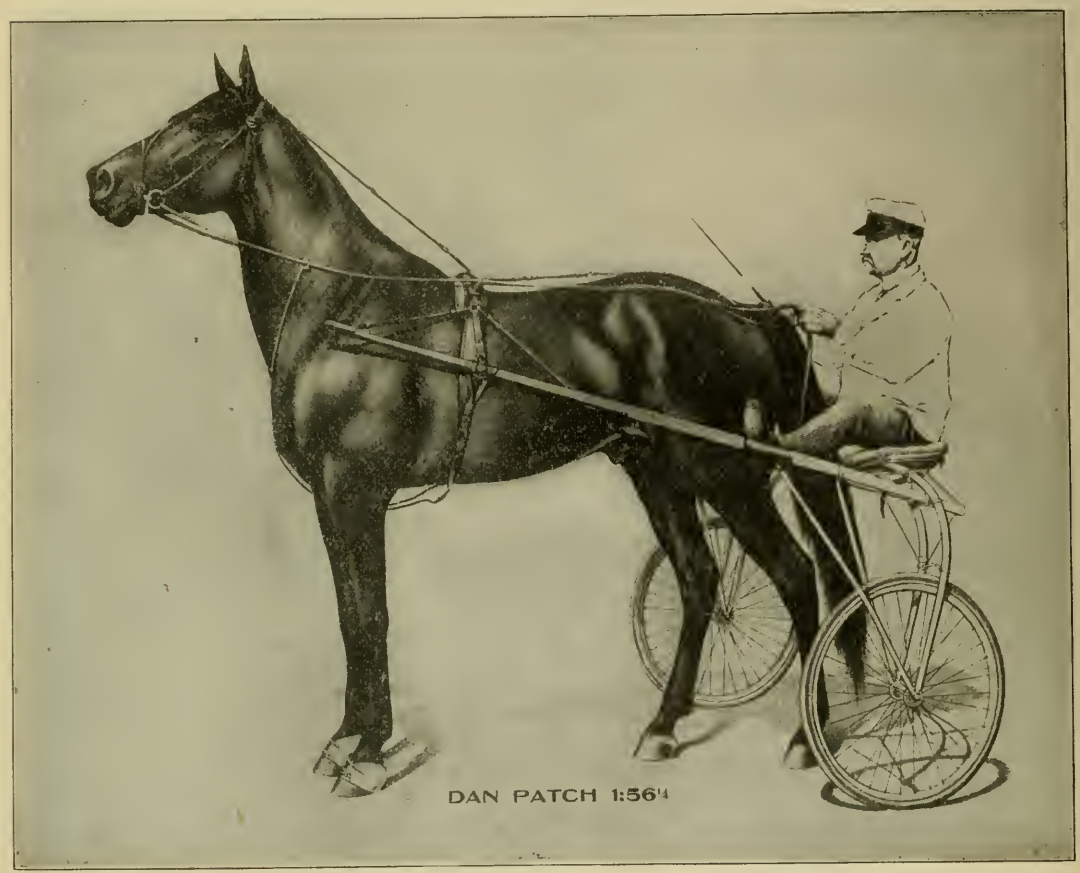
The starting point in plant breeding is to have a vivid mental picture of the plant type desired. Then select the plant which is nearest the ideal, and set the offsprings from it; from these, again select the individual which nearest approaches the type in mind, and so on generation after generation until the desired object is attained. In order to make rapid progress the same ideal must be kept in mind year by year lest there be vacillation, and the progress of one year would be undone by a counter movement the following year. In working along these lines, we find that almost any character of a plant may be intensified. This is the true way to dominate over the physical forms of life. Every group of plants is endowed with certain characteristics and surer results are obtained if we work along the same lines and do not attempt to change them. The more variable any species of plants are the more variation or starting points we have in such species; they are very plastic and yield readily to our wishes. By carefully watching and closely studying the habits of each particular variety of strawberry plant, it is possible to break the type and it will depart from its normal behavior; then it soon becomes plastic enough to allow of modification in the manner desired. We now have it practically under our control and it will yield readily to the ideal type we are working for; it is a wrong idea to have in mind at one time several objects. We breed for one thing at a time. If the particular variety is deficient in productiveness, but possessing other points showing superiority, then the prolificacy is the principal object worked for, giving sufficient attention to other features discovered and taken up with a view to the improvement of the plant to keep them up to the normal standard; when the one point we are working for attains our ideal, the next deficient point is taken up for improvement, breeding along these lines until all organisms of the plant are brought to our ideal. The above photo engraving shows sixty-five different varieties under restrictions at the starting point of plant breeding, having a certain object in mind, of an ideal type for each individual variety.

bank's work, which seems only to have been fairly begun, is selection combined with breeding, selection coming first.

Close, observing horticulturists have learned many facts as well as many laws of plant and animal life, but they have not yet learned what life itself is. They have found that physical life dwells in protoplasm and in nothing else, and that this life containing substance is the same in plant and animal organism; and further, the laws governing the growth and development of the two are largely identical. The progressive fruit grower makes use of all known facts and laws of life in order to improve the quality and quantity of the products of his fruiting fields.

In our book for 1904 we made a quotation which we repeat this year because it is a fundamental law of life: "The constant execution of a definite function gradually effects a structural modification."

The explanation of this terse statement is, that properly directed energy in a definite direction will develop any part of the organism of plant or animal and this development will become so marked and fixed that it will be



This is Dan Patch. He holds the fastest record of any harness horse in the world. He is bred up from a long line of ideal ancestors that also hold fast records. With such skilful breeding by selection and with the assistance of a careful driver it has been made possible for Dan Patch to pace a mile in one minute, fifty-six and one fourth seconds. On account of his high breeding and speed combined, Mr. M. W. Savage, proprietor of the International Stock Food Co., Minneapolis, Minnesota, paid the enormous sum of $60,000 for him; he is now valued at $150,000. Many of his colts bring $1,000 to $1,500 when one day old. What difference does the first cost make so long as his offspring pays a big dividend on the investment, beside winning all the big purses, never having lost a race? He only weighs 1,200 pounds; his owner was not buying common horse flesh at $50 per pound, but the pedigree, showing his get was what placed the value. Size and weight is a small consideration; minutes and seconds are what count. The great horsemen are now breeding to this wonderful speeder, paying fabulous prices, hoping to get something to still beat his record. It's just as impossible to win a big purse in the great horse races with a weak and poorly developed horse as it is to win big purses in the great strawberry race with weak and poorly developed plants.

transmitted with increased tendency in the same direction to the offspring. The early horticulturists believed that plant structure when propagated by buds and runners was fixed and that no change whatever occurred in succeeding generations. This thory was simply accepted without investigation until it was observed that fruit buds vary under selection and restriction, resulting in new and varying types or forms. "Nature makes no leap," is a canon which every fresh addition to our knowledge tends to confirm and yet under the skillful application of nature's laws new fruits are created and old varieties modified to adapt them to new conditions by means of which their qualities and desirabilities are improved.

The enthusiastic, successful fruit grower or farmer will be satisfied with nothing less than a knowledge of these laws, and to possess the art and skill necessary to make nature open to him her storehouses, for of more account than gold or silver are the harvests of fruit, flower, vegetable and grain in our gardens and fields.

Two of the several purposes for which this booklet is written are briefly to give the reader the essential facts of plant life and plant breeding and also to give methods of cultivating the strawberry in order to grow the largest crops of big, red berries.

SEX IN PLANTS.

The natural instinct of all life is to perpetuate its kind. Flowering plants are male and female, sometimes having the organs of the two sexes in the same flower or plant, as in the bi-sexual strawberry, and on corn, and sometimes on entirely different plants, as in hemp and willows.

The seeds are the eggs of the plant and contain the two merged life germs kept in dormant state just as the germ in a bird's egg re-

This is one of Kellogg's thoroughbred strawberry plants. They hold the most wonderful fruiting record of any strawberry plants in the world. They are bred up from a long line of ideal ancestors that also hold famous fruiting records. With such skillful plant breeding by selection and with the assistance of a careful cultivator it is now possible for them to grow two big red berries where one little one grew before. On account of their high breeding and fruiting power combined, the progressive berry growers all over the world are setting them. They cost a trifle more than common plants, but what difference does the first cost make so long as the difference in yield and price obtained pays a big dividend on the investment? Up-to-date berry growers are not buying common plants at so much per pound. Like the horse, size and weight is a small consideration. The fruit producing power and pedigree showing that they come from a line of ideal fruiters is what places the value. You cannot win a high reputation and be a leader on the great strawberry markets with weak and poorly developed plants any more than you could compete with Dan Patch with an unbred horse.

mains dormant until warmed by incubation. The seed is put in the ground, where moisture and sunshine stimulate it into activity. Thus both develop and bring out the new beings after their kind.

The fruit flesh which we are after grows only as a substance for the seeds to develop in. The gland system which builds the fruit flesh cannot perform its work unless the seed forming glands prepare the way for the seed building organism to work. We know this because whenever fertilization fails no fruit flesh develops. If you should set an acre of all pistillate varieties of strawberries they would bloom full and you would think a great crop is in sight, but you would soon see the flowers drop off and no berries could be found. The banana, pineapple, naval orange and some other fruits have no vital seeds and they are regarded as freaks. They have, however, rudimentary seeds which stimulate into activity the fruit flesh glands and we call especial attention to the fact that all these seedless fruits never suffer from overbearing, but if sustained by manuring and tillage will bear just as good crops the year following, the amount of fruit depending merely on the capacity of the trees.

The especial and important point to note is that the development of fruit not only depends on conception, but upon the potency and vigor of the consolidated life germs, for wherever the vitality of these two life germs (of father and mother plant), is low, the berries will be numerous but always small and deficient in quality.

We know the violent passion for breeding possessed by animals and the fact that all stock breeders limit them so that they will not become seminally exhausted, for in this case the offspring would be very inferior in all respects.

This seminal exhaustion takes place in plants in identically the same way. Now take a vigorous and heavy fruiting raspberry field. Omit the annual pruning for one year and see what a splendid crop you will get. Now, prune it and manure, and next year cultivate it as much as you please and see what light crops of berries you will get for several years to follow. If you prune closely, of course it will gradually recover, but for want of restriction this one year you would lose heavily on succeeding crops.

You notice in the orchard when it blooms so full, when every twig is loaded with blossoms, that the fruit is always inferior and

REMOVING BUDS FROM YOUNG STRAWBERRY PLANTS.

One of our very best investments is cutting the buds from the young spring set strawberry plants just as soon as they appear. We have the men go over them in a body with a foreman following, closely inspecting the work, seeing that every bud is removed; this relieves the plants of the great strain of pollenization, throwing all of its energies to building up a large root and crown system which is the foundation to a big crop of fancy berries.

Never allow your young plants to bloom the first year they are set; it's an easy and quick job to take them off, simply cut or pinch the fruit stems. If allowed to fruit the first year they are not only weakened by pollen exhaustion but seed production as well, resulting in a loss rather than a profit.

heavy crops will not occur again for several years, which may be attributed to pollen exhaustion; but if you properly restrict it by pruning or cutting off surplus buds, so it will not became seminally weak, it will bear good crops of fine fruit every year. Every grower of grapes knows that he must cut off fully five-sixth of his wood and buds every season to get high-grade fruit and this is always done in the winter or early spring, before excessive pollen secretion takes place. "Bearing itself to death," is a common expression among fruit growers and yet but few persons understand the waste of plant vitality arising out of excessive breeding.

The strawberry plant left to itself throws its whole energies into this sexual function of seed production and consequent fruit, and gradually its seed organs waste away until its fruit is small and inferior and then we say it has run out.

It is only within the last few years that strawberry growing has been made profitable. At first the grower fruited his beds several years until it needed renovation and manuring and then he fitted new land, went to the old bed for plants and after repeating this once or twice he got but little fruit and gave up the business in disgust.

The boom in strawberry growing came when an eminent horticulturist pointed out that better results would follow by taking plants from yearling beds which had borne no fruit and remove all blossoms the first year. This was a big improvement and seedlings of quality held out longer because the exhaustive and devitalizing process of pollen secretions was avoided, but for the want of physical exercise in the breeding functions they gradually grew weak and unfruitful.

This was greatly hastened by the fact that fruit growers persisted in taking the immature tip plants, or those which ran out in the alley between the rows. These plants form so late in the fall they have no time to complete the development of their fruit organs and as the blossom buds were not removed until after the mischief of excessive pollenation had occurred there soon came to be the greatest difference in fruiting ability and the running out process went on very fast.

During all these years there has been a clamor for new and more productive seedlings and fabulous prices were paid for them and for a few seasons they shone like a meteor in the horticultural heavens; but they soon began to grow dim because of the wasting away of the fruit organs and like their predecessors, in their weakened condition, fell an easy victim to insect, fungi and all the ills plant life is heir to, and so were discarded.

If there were no changes in the fruit organs of plants arising out of excessive pollenation and seed formation you could continuously renew from the old bed by taking new runners indefinitely; but in all such experiments it has been shown that the strength of the plant would all go to runners and foliage and not to fruit, showing conclusively that potency of pollen and pistil fluids are the prime factors in growing large berries of quality.

We have referred to bud variation under selection and restriction and the consequent changes, and here the work of the plant breeder is most valuable. He must be skilled in detecting variation for these are often so slight that only the trained eye would notice them. He must readily select those plants having the most improved changes in their vascular system and reject those showing a

A BUSY DAY ON THE R. M. KELLOGG' CO.'S PLANT BREEDING FARMS.

From early spring till November every day finds a full force of men at work on our grounds. As the above illustration shows, the spraying machine leads in the work and this in turn is followed by the cultivators; then comes the army of hoemen, each using a small, narrow pointed hoe, breaking up any crust left directly in the row where the cultivator cannot reach, taking care not to disturb any runner plants that have started to send down roots, and also to place dirt just behind the nodes of all the runners that haven't started roots; this holds them in their places until root growth begins, and encourages all the roots possible to start direct from the crowns, which makes an ideal plant. The spray machine always keeps far enough ahead of cultivators to insure that the liquid becomes thoroughly dry before any dust is raised to adhere to the leaf which would effect the chemical action of the spray materials. In just two and one half days after each rain the entire 80 acres of plants are blanketed with a perfect dust mulch. You don't see any boys in the battle; the entire regiment is made up of the very best and most painstaking men this country produces. We have been years picking them out and many of them have been enlisted here so long that we would not be surprised if they yet make applications for pensions. The Captain leads the men into the field of action at just 7 o'clock in the morning; at noon each one sits down to a full dinner pail, starting again at prompt one, keeping a steady gait until six o'clock when all go cheerfully to their happy homes. We pay the best wages and get the very best men that do the very best work.

L. H. BAILEY, M. S.

Director of the School of Agriculture, Cornell University, Ithaca, N. Y., and author of Plant Breeding. Every berry grower should have a copy of this valuable book. It is published and sold by Macmillan & Co., 66 Fifth avenue, New York. Price $1.00.

weakness, for it is only by propagating from the plant or tree having the stronger fruiting tendency that he can expect to secure an improvement in quality and quantity of fruit.

The reputation of a plant breeder for skill counts for as much as that of a judge at a poultry show; no two judges scale a chicken just the same, but the verdict of the one known to possess the greater skill is accepted as final. So with plants.

The great majority of plants will be healthy and strong, especially if restricted to prevent seed exhaustion and are well fed and protected from encroachments of other plants.

If there is no such thing as changing the organism of plants, why do we have plant breeding classes in our Agricultural Colleges? Of course, it is a recent thing, but twenty years ago not one farmer in a thousand knew plants were male and female or scarcely anything about their physiological parts.

It costs big money to maintain a model orchard and bed of ideal perfect plants from which to propagate. New selections must continuously be made and while with the berry it can be renewed every year and good accumulations be rapidly made, yet with the orchard, it requires many years to effect a single change; so the growers of cheap nursery stock were forced to teach the false doctrine of stability of buds in plants.

This subject was brought to the attention of the American Association of Nurserymen, which assembled in Detroit, Mich., a few years ago, by that most eminent horticultural investigator, Prof. L. H. Bailey, who pointed out the necessity of model orchards and ideal berry plants from which to propagate, and showed how rapidly our trees and plants were degenerating under the present system of using nursery row scions and hit-or-miss plant multiplying. In the discussion the nurserymen all conceded the correctness of Professor Bailey's claims, but argued that the

THE STRAWBERRY FLOWER GARDEN.

There is certainly nothing more pleasing to the eye than a neat flower bed of any kind, and when we can have a beautiful flower bed loaded down with big red berries we do not stop at pleasing the eye, but here is where the stomach gets satisfaction as well. There are no flowers that make any prettier bed than the strawberry plant with its green foliage, then its load of white bloom with bright yellow center, and lastly the immense donation of blood red berries that make the mouth and eyes water. The city folks with small lots have a chance to pick fresh berries as well as bouquets; then the pleasure of growing the berries themselves makes them taste much better. Simply mark the design wanted in the dirt then set plants in these marks. Let the children help take care of them until the berries are ripe, when it's hardly safe to have any children around under the age of 75. Just slip a few big juicy berries into the milkman's hand and they will be hint enough for him not to put any water into his products during the berry season.

people would not pay a price that would justify the additional expense until they were sufficiently educated to comprehend the difference; that they were forced to adopt methods which would enable them to grow the big plants and trees for the least money until people would pay for quality. The people wanted large, smooth trees and plants and it was shown that these could not be produced from strong, bearing wood. These were generally crooked and would not attain size in the same time they would if scions were taken from non-bearing wood continuously as from tips of young trees in the nursery row.

Did you ever notice that a tree bearing big crops of fruit is always crooked and scraggly? When scions are taken from them, the young trees have the same peculiarity and while they would come into bearing earlier and produce much better fruit, yet people do not like the looks of them. They judge by size and not by the internal machinery. It is exactly the same with plants. They want a big plant and to get it the nurseryman must propagate from those with fruit organs wasted so the resources go to building up the vegetable parts.

At this nurserymen's convention, Professor Bailey made comparisons of plants and animals and urged horticulturists to study the means adopted by stock breeders for improving their animals and all present agreed that a radical change must be made; that the advancement of horticultural science was such that people would demand trees that possessed the function for making fruit of quality, and not wood, runners and vegetable parts. All this is not a mere question of manure and tillage, but is one of plant organism and development of fruit glands requiring years of selection and restriction.

If there were no bud variation a strawberry plant could be fruited year after year, produc-

THE HOME STRAWBERRY BED.

What knowledge and habits are of most worth? This is a question that may well stand first in the minds of fathers and mothers, for hold any ideals we may, the great fact still stands out as clear as the noon-day sun that food and raiment demand a large part of our attention and fortunate indeed is the boy and girl who learns early to appreciate the best and to know how to get it honestly and independently.

The illustration above is made from a photograph of a home garden, the bed consisting of eleven rows three feet apart and occupying but little more than ten square rods. From this plot of ground there were picked four hundred and ninety quarts of berries beside what was used by the family both on the table and for canning. This yield was not uncommonly large, but was good. The berries sold brought the neat sum of $48.60. Nor was the financial part the most profitable, for habits of industry and thrift are nowhere better fixed than in the fruit garden, especially if those who do the work are to reap the reward. Everybody admires the man and the woman who is a financial success, and to be a financial success does not necessarily mean to be rich, but rather to be forehanded and self supporting. The boy and girl who forms habits of industry, method, thoroughness, conscientiousness, courtesy, etc., have the foundations to financial success in its true sense already laid, and when given a chance there is no better nor more practical way to learn it than in the strawberry bed. Thrift is a habit and the right way to learn to do is by doing.

ing just as good fruit and as much of it every year, provided it were given good tillage and plenty of manure. But this proposition is at variance with the experience of every successful berry grower.

The old Wilson Albany strawberry is often cited to show there is no such thing as variation in plants. This old variety possessed a strong fruiting vigor and held its place for more than forty years as the leading market berry, but in the last years that it was in general cultivation there were nearly as many strains of the Wilson as there were berry fields of it. It was very far from the big, luscious berry introduced by James Wilson of Albany. It did not attain half the size it originally did and when you get the facts of its existence you have conclusive proof that selection and restriction thoroughly carried out would have perpetuated this sterling old variety indefinitely. If you study this subject carefully you will see there is a variability in everything possessing life and that the basis of all improvement is selection and physical manipulation.

PROPAGATION BY SEEDS.

We can not rely on strawberry plants propagated by seeds because there is a consolidation or merger of two life germs, that of the male and another of the female, and one may be much stronger than the other. If you were to plant twenty thousand seeds of the Sample strawberry fertilized by Aroma, probably not one would be better or as good as the Sample, because an entire new vascular system would be created in the merger. There is a complete division of each and every characteristic of father and mother in every particular and sometimes peculiarities of even remote ancestors will appear in the new life.

When we do find in a new seedling variety such a gland system as would in producing seeds build up the largest amount of fruit flesh and give it the richest flavor, best texture, most pleasing color and form, we at once be-

THE SECOND SPRAYING

No chances taken on our plant farms, we shoot before the enemy comes in sight. Immediately after the plants are all set we load up our four row power sprayer with Bordeaux mixture and Paris green, going over the entire eighty acres of plants every ten days. Liver of sulphur is used at intervals to prevent mildew. No fungi or insects are allowed to interfere with the growth of plants; the lungs and stomach (foliage) are kept in a healthy condition, which assures perfect development.

gin to propagate it from its buds; that is, runners, and if this propagation is carefully carried on by restriction and selection, as we have already explained, the variety will retain its characteristics many years. The development of new varieties by seed propagation is intensely interesting for even though many hundred of the varieties will be inferior to the parent plant in quality of fruit, yet the one contribution of a superior variety repays in satisfaction for all of the time and patience needed to produce it.

PROPAGATION BY RUNNERS.

The structure of the strawberry plant and of the peach tree is the same, each being such as adapts it to its nature of growth. In front of the mature leaf of each may be found a bud which on the peach tree may develop into a branch, and on the strawberry plant into a runner; in fact the runner is the branch of the strawberry plant. It forms a bud or node and protoplasm collects in it and thus a new being is formed. When leaves and roots are formed to support it, the connecting vine dries up and dies and we have a new and distinct creation. The important point to note is that the new plant has essentially the same gland system as that from which the runner came. It is the same with all trees and other plants propagated by grafting, cutting and buds. It is called propagation, sexually or without the aid of the sexes.

PLANT PEDIGREE.

Pedigree plants means plants scientifically developed. The word "science" means knowledge classified, or in other words, work carried on under a well-planned and defined system. The word "pedigree" means a description of the individual ancestry in a lineal ascent. All animals have a pedigree, but all animals are not called pedigree animals because the word is always used in a technical sense. It means skillful breeding.

The native cattle of the western plains are bred on the hit and miss plan without selection and restriction by the trained eye and hand of man. As they have no organism for converting grain and grass into the tender steaks all their food goes into skin, bone and gristle. Shorthorns and other thoroughbred stock being developed by scientific selection, restriction, proper environment, and the accumulation of good variations, have their higher qualities of flesh tissues developed to the extent that their meat value is more than twice that of native western stock. What a wide difference there is in the flesh of the two classes of animals! There is the same difference in plants. One, through scientific treatment, selection, restriction, proper environments and accumulations of good variations, is said to be thoroughbred, and the pedigree or description of each ancestor shows that it has been carried on long enough to fix these features in the plant so it will be transmitted.

Since all our plants are bred in this way we have adopted a trade mark which is protected by common law and designates the stock we furnish as "Pedigree Thoroughbred Plants," to designate them from plants commonly grown like the wild cattle of the plains.

PRIDE OF MICHIGAN IN BLOOM.

Just look at this engraving and imagine every bloom a big red berry; that is just what you will see every year. No blank bloom on the Pride of Michigan; everyone develops into a big bright red and perfect specimen that fills every requirement of an ideal fancy berry; just lay down and hide in the long green foliage and eat until your stomach says enough. But don't leave yet, you will want more in a few minutes; they only come once a year so eat to your satisfaction.

OUR BREEDING PLANTS.

Under the illustration of Plant Selection we have given the fundamental principles of plant breeding as carried out on our grounds.

Young people are often admonished to secure an education and are assured it is the one thing that cannot be taken from them nor can they loose it. No statement is further from the truth for it is an unvarying law of nature that any faculty or power of body or mind degenerates and is lost by disuse; we must use or lose every talent either natural or acquired. While it is doing that develops, we must also remember that excessive doing likewise causes loss of power; and this is as true in plant life as in animal. It overworks its fruit producing organism and must be restrained (restricted) to the ability of its gland spstem to replace the parts worn out and so long as this is done the plant will grow stronger, but when you pass that line it will grow weaker and waste away.

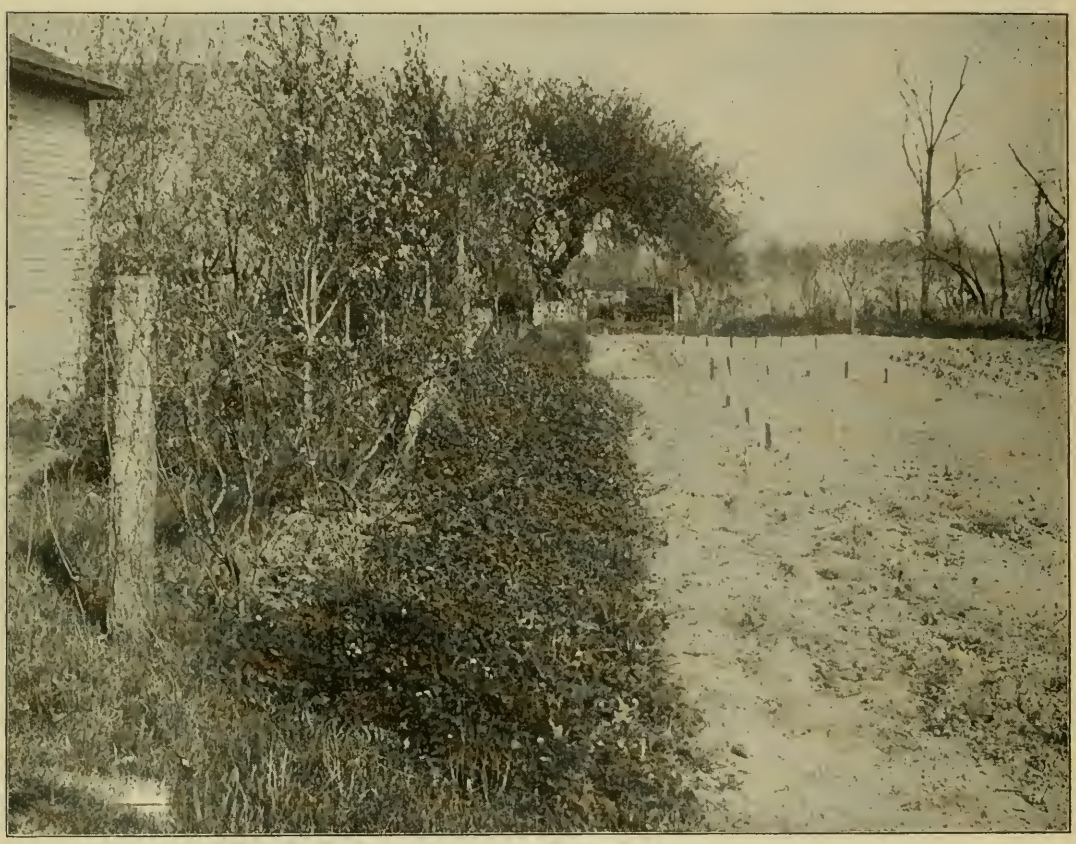
We have already explained that plants possess the same violent passion for breeding through the sexes as is possessed by animals and that this drained the sources of life itself and would eventually make the plant impotent or lose the ability to fruit at all.

We propagate continuously from bearing plants, but they are restricted to the point where strength accumulates. For the purpose of securing the betterment of our stock plants, as well as in the after multiplication ,they are grown under the most favorable conditions known to the horticultural art.

Absolutely no expense is spared which, in our judgment, would contribute to their betterment and yet under these favorable environments some will improve faster than others and so the scale of perfection is advanced materially by selection. We can improve strawberries faster than any other perennial because through runners we get new creations every year. The illustration of our breeding bed was taken on September 1, 1904. The first year we can only judge of the general appearance of the vegetative parts, which cannot be seen the following spring, and so after they have made advancement enough to show these qualities, those showing best are designated by a numbered stake and scaled by actual measurements. Peculiarities of foliage and crowns, with number of apparent fruit buds are noted on a decimal scale of hundredths.

In the following spring we judge their fruiting abilities. Excessive pollenation is prevented by removing two-thirds of the blossom buds on each stem and the fruit is allowed to set and then thinned to two or three berries to the stem. The gland system of the plant can only be judged by its performance—that is, the fruit it produces.

The size, color, texture and form are all carefully noted. The question of superiority of the plant is not guessed at; it is a matter of mathematical calculation and the one showing the greatest number of points of excellence now becomes the parent of all of that variety. Its runner plants are transferred to a bed where it can be further developed and make



If there is a fruit plant or tree on earth that responds richly to good treatment, generous feeding, an abundance of air and sunshine and good cultivation it is the strawberry. The above illustration is not a mere imagination but a true story told by the camera of a fruiting (?) bed. This one is in our neighborhood and you have the same kind in your locality, and yet the owners are always wondering why they never have any LUCK in growing berries. Some persons have no clear ideas of what true energy is; that is, they get confused in regard to luck and a talent for work. We pity them. Don't you?

runners from which all our customers are furnished. They are just as truly thoroughbred as any animal in the land.

THE SCIENCE OF PLANT BREEDING.

The organization of the division of Vegetable Physiology and Pathology of the Agricultural Department at Washington, D. C., is of comparatively recent date, but today it is not only the leading division of the department, but the Bureau of Plant Breeding in connection with it is becoming the most prominent and employs the world's best experts in carrying on its work.

The National Animal and Plant Breeders' Association, whose meeting was held at St. Louis, Missouri, in December, 1903, has taken up the work of plant breeding in a practical, systematic way and the revolution in agricultural methods as well as in fruit growing may be said to have fairly begun.

The literature of this science yet consists of but few pamphlets and books, but they are multiplying, for practical plant breeding is destined to add untold wealth to the world's storehouse.

To those who are interested in pursuing further the study of this most important subject we would recommend that delightful little book, "Plant Breeding," by Prof. L. H. Bailey of Cornell University, and published by Macmillan & Co., 66 Fifth Avenue, New York. Also Bulletin No. 29, U. S. Department of Agriculture, Washington, D. C., entitled, Plant Breeding by Willet M. Hayes, Professor of Agriculture, University of Minnesota. It can be procured by writing to the department.

The day is not far distant when no fruit grower will set plants or trees not propagated from pure bred stock and he will rely on the practical plant breeders to furnish him for his fruiting orchards and fields with plants scientifically grown.

THE PROPAGATING BED.

You cannot make a success in growing berries where you propagate plants in the same bed upon which you grow fruit. Each requires a different treatment to produce best results. It is much like the old combined reapers and mowers of fifty years ago. They were to cut both grass and grain and always wasted both.

In Hamlet, Prince of Denmark, Shakespears makes the Dane say "Look here, upon this picture, and on this." This garden and the one on the preceding page are less than a half mile apart if measured by the surveyor's chain, but several times that distance if measured by quantity and quality of berries. A great deal of the joy of life consists in doing well everything attempted, and when the wife can walk down the straw covered paths and fill the basket with the fine, plump fellows that lay in wind-rows she can't help but feel cheerful as she sets the luscious short cake on the dinner and supper table. And how does the other fellow's wife look at life when she is hunting among the vines and weeds for a few nubbins? Who is to blame if she don't smile when you come home? The man who doesn't make love to his wife after they are married is neither appreciative nor wise, and one of the ways to do it right is to provide for her a good strawberry bed.

Preparation for a big crop of high priced berries must begin in advance. You must not only have your ground fitted, but your plants also must be grown under special care. It makes a world wide difference if you start the bed with plants already well developed, because in this case you have only to enable them to hold their own and then you can get results.

In selecting ground avoid all low, mucky soil. These unduly stimulate the vegetative parts of the plant at the expense of fruit organs. Such soil are largely used by growers of cheap plants because they make a world of runners, but it is hard on the man who buys the plants; for a plant grown under such conditions will go right on making runners instead of berries.

Select a sand loam and set plants fully twice as far apart as if they were intended for fruit. Make it only moderately rich and depend on thorough tillage and layering the plants so they will root as soon as formed and be especially sure to keep them spread out so every leaf will be fully exposed to the sunshine.

Use the cultivator liberally, but do not crowd the plants. Use a sharp pointed hoe to work among the plants to break up the crust, using care not to disturb the plants that are beginning to send down roots.

A runner will not make roots unless it is brought in contact with moist earth, and so in layering, it is best to remove a little of the dry top earth and replace it over the crown, but the leaves must not be covered. A small stone is best because it holds capillary moisture. It is a good plan to have a pretty large propagating bed for in a dry season it will not make so many plants, and you will have opportunities to sell a good many, and after you have taken what you want you can let the balance fruit. Where beds are fruited two or three years before turning under, you should plan the propagating bed a year in advance and order fresh selections of thoroughbred plants and in that way a material saving can be effected.

It is of the utmost importance that the breeding bed be mulched as soon as it freezes in the fall. A plant left to freeze every cold night and thaw every bright sunny winter day might form new roots to take the place of those broken by the expanding and contraction of the ground, if the plant was left where it grew, but where it is transplanted many

A PERFECTLY BALANCED WATCH.

This watch was built upon honor by manufacturers of reputation, and is one of the highest grade watches in the world. Each delicate part is made from the very finest material that can be produced, and is put together by the most skilled experts; the majority of the parts are so small that they can scarcely be seen with the naked eye, but when properly polished and adjusted, it is a regular network of perfectly balanced machinery, each part doing its particular work and keeping time that can always be depended upon. The value of a watch cannot be determined by its size any more than a strawberry plant can be judged in value by its size; the true worth of a watch lies in the perfect time it keeps and a guarantee that is backed up by the makers.

A PERFECTLY BALANCED STRAWBERRY PLANT.

This strawberry plant was grown upon honor by experienced men of reputation, and is from a strain of the highest grade mother plants in the world; each delicate part is built up on the highest grade plant foods that can be obtained, and all phases of plant breeding by selection is carried out by the most skilled experts. The most valuable parts of this plant cannot be seen by the naked eye, but like the watch, is a regular network of perfectly balanced plant machinery, and when properly trimmed and adjusted to the soil, each of these delicate parts start at once to do their particular work, producing the required effects that can always be depended upon. The value of a plant cannot be determined by its size any more than a watch can be judged by its size; the true worth of a plant lies in the quality and quantity of berries it produces, which depends on the strain of plants from which it was bred.

will be sure to fail. The mulching serves to keep the plants back so you can fit your ground and still have dormant plants.

You will need to have a larger bed for these pedigree plants because they do not send out runners early. They first throw up large crowns and make runners later, and will not make half the runners as a rule that common plants would make under the same tillage.

We are often asked if plants of different varieties set in the same bed will mix, to which we reply that the new plants might become mixed by the runners spreading out and becoming mingled as they take root; but each variety will bear its own particular berries regardless of other varieties that may be growing near it. The seeds in each variety will mix or hybridize, and if these are planted new varieties would be obtained.

The number of plants each variety will make depends on the soil, moisture and care given and especially the amount of nitrogen in the soil. As a rule the early varieties make more runners than the late ones.

The propagating bed is a fine place to study plant life and get interested in it. You always feel better and acquire a disposition to push things along when you find you are doing work in a systematic way and see big results in advance. A commonly bred pig will make pork, but a thoroughbred pig will make very much better pork and a good deal more of it according to the feed given it. Don't allow yourself to believe there is not the same difference in plants.

Selling plants is much like selling berries. When you grow berries so luscious and good that they will contribute more happiness and satisfaction to the purchaser than those grown by anyone else, you are dead sure of that person's patronage.

Plants are judged by the fruit they bear and when people see your big berries they judge rightly when they say big, luscious berries cannot be grown on poor plants, and so you will soon begin to have inquiries, and if your propagating bed is conducted right you will gradually grow into a profitable business in this line.

The demand for high grade strawberries in these prosperous times is something enormous and growing every year, so that the demand will always be greater than the supply.

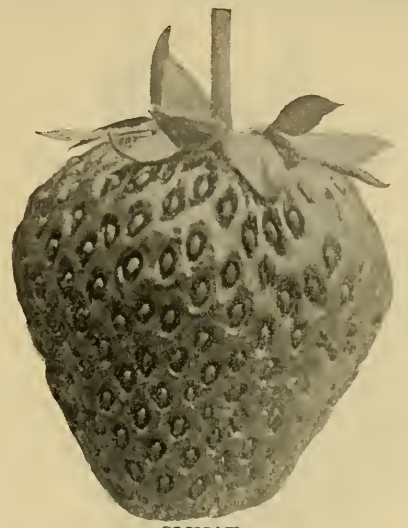
Money is useful when it brings happiness, and the fellow who can furnish the most pleas-

THE WILD STRAWBERRY.

Nearly everybody has picked the wild strawberry, so small it required almost a day to pick enough for a shortcake. Just see the photographs of berries on following pages which shows the results of careful plant breeding by selection and restriction with good culture.

EXCELSIOR.

EXTRA EARLY. Bi-sexual. Perfectly reliable as its tall thick foliage protects the bloom from danger of frosts, and this is one good point for such an extra early variety. It can't be beat as a heavy yielder of good average size, highly colored, firm berries; they are such a bright red they fairly glisten in the box. It has a long fruiting season, and is among the very first to ripen when prices are high, which is another point in its favor. Its shape is almost round, all averaging nearly the same size and smooth as can be. It is very popular and succeeds all over the country, doesn't require any petting, but keeps right on growing. However, you will be well paid for any extra care given it; the plants do not get large in the propagating bed, but stools up to a mammoth size when restricted to narrow hedge row. This is the 9th year of selection from ideal fruiters, gaining points of excellence every year.



CLIMAX.

EXTRA EARLY. Bi-sexual, strong pollenizer. Anyone who could visit our field of this variety and see their dark green foliage without getting enthusiastic, isn't fit for the strawberry business. This is our first place to visit in the morning, and when the big, red, waxy berries are ripe I generally take my first course of breakfast in the field No, thanks, don't need any cream or sugar, they are rich and sweet enough without; the large, ripe ones seem to hide under the big foliage when they see me coming. It is enormously productive, the berries lay on top of each other, very firm and extra high quality, every one as smooth as a top, having the appearance of being moulded to order; just place the big, meaty fellows tastefully in the box and ask your own price; being so extra early and everybody hungry for strawberries they won't object to paying your price to get them. The first year of selection shows it a wonderful plant to build up lots of big crowns with no variation in the foliage which makes it all the more attractive.

JOHNSON'S EARLY.

EXTRA EARLY. Bi-sexual. Seems to be a little particular as to soil; it has been a great leader as an early berry for several years; quite popular in the south, is prolific of highly colored berries, of medium size and good quality. Unless you know it will do well in your locality we would advise making a small trial before setting it largely. The seventh year of development by selection and restriction.

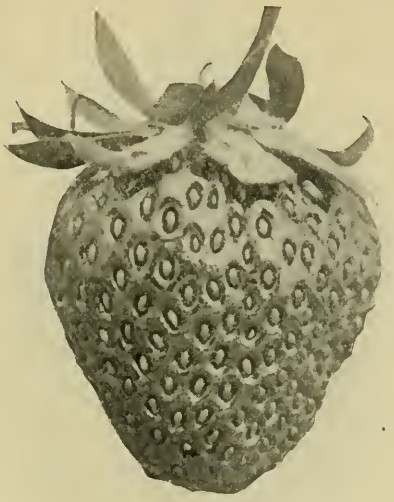
ure for the least money will get the most orders for berries or plants, or both.

SUNSHINE.

We have already explained that sunshine is the mechanical force that enables plants to assimilate their food and separate the carbon from oxygen of the air; that to do their work the air must have free circulation among the leaves and particularly at the crown of the plant, where the seed germ is located, or it cannot develop; for this reason the plants should always be kept far enough apart so the leaves can fall over flat so the entire upper surface shall be fully exposed to the sun's rays. Where plants are allowed to make runners, and mat so thickly that the sun can only shine on the outer edge, you must not expect much fruit.

Did you ever wonder why God made the sun to rise far to the northeast and set in the northwest? This is to cause sunshine to reach the north side of trees and plants. Notice how the house plants turn the upper surface of their leaves toward the light.

Fungus plants, like toad stools, mush-rooms, etc., grow in the dark, but they have no diges-



AUGUST LUTHER.

EXTRA EARLY. Bi-sexual. This variety is very popular not only with berry growers but also in the family garden. It has a host of friends and succeeds everywhere. The berry has a good bright color; with dark red flesh; form roundish, tapering a little to a point which makes it very attractive; for an early berry in the family garden we don't know of anything to beat it as it has such a rich delicate flavor The berries are good size, firm, and lots of them. The plants are a beautiful green, upright growers and make runners freely. This is the 6th year of selection and restriction, and it is showing up better every year. The calls for these plants are increasing so fast that our supply was exhausted last year long before the close of our shipping season.

MICHELS EARLY.

EXTRA EARLY. Bi-sexual. One of the very earliest on the list, nearly every grower in the country has tested it; does well on sandy or clay loam, an extra good pollenizer. Berries are deep red, firm and good quality; can be shipped long distances. It makes a vigorous growth, long leaf stems that are a great protection against frosts. This is the 14th year of selection and restriction.

tive organs of their own and merely appropriate dead matter in mould.

DESCRIPTION OF VARIETIES.

Before reading the descriptions of the different varieties, we wish it understood that everyone of them has been thoroughly tested in our experimental beds, keeping acurate records of every point in fruit and foliage, watching every little detail closely and neglecting nothing. We do not guess at anything, but depend entirely upon figures and dates. In the description of each variety the number of years is given that we have been breeding it up by selection from ideal mother plants of known fruiting vigor. When stating that a certain variety does well everywhere, we get our authority from reports furnished us by growers using our plants, from all over the country. But remember that these results which we and our customers are getting cannot be obtained with plants that have become weakened by pollen exhaustion or careless propagating from run out beds. Plants that are bred up from a long line of ideal ancestors and grown under our methods will fill every statement made on each individual variety.

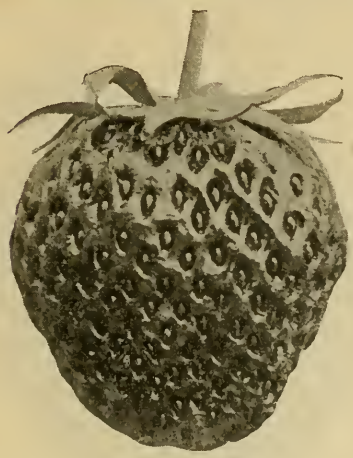
PEDIGREE.

Every plant we send out is eligible to a pedigree record, because it comes from a long line of ideal mother plants of known fruitage vigor. Like begets like in plants just the same as in animals; there are variations in either, but no more in one than the other, and the only scientific method that can be used in improving either plants or animals is to breed by selecting from the most perfect specimens, showing the most points of excellence, bringing each generation nearer the perfection mark. The most scientific horticultural and stock breeders know and admit this to be a fact, and the results of past years substantiate the correctness of their methods. Not only plant and stock breeders are working along these lines of improvement, but corn and wheat breeders as well. The manufacturers employ skilled experts to work out improvements in their particular lines, and the air is full of improvement. The world is bound to advance; there has never been and never will be enough old fogies to hold it back, and the last twenty years show more advancement along all lines than any other fifty years of its history. The coming twenty years will show double results of the twenty just passed. The American people are getting wakened and becoming enthusiastic on plant, animal and grain breeding.

ARRANGEMENT OF PLANTS.

There are five ways of growing strawberries, viz: Hill culture, single hedge row, double hedge row, narrow matted row and full matted row.

Hill or stool culture does not mean growing them on a little mound of earth as many of our correspondents seem to think, but on level ground. It means that the runners are all to be picked off as fast as they appear so it will be confined to one single plant. It might be called a consolidated plant. If the fruit organs and disposition of the plant to make fruit buds is strong, as in the case of a thoroughbred plant, when a runner is cut, it will not throw out any more runners until it builds up on the side of the plant a new crown and fruit bud. Then it will send out another runner; cut this and you will get a new fruit crown.



PALMER.

EXTRA EARLY. Bi-sexual. Berries are deep crimson, a mild rich table berry, quite firm, good for market or home use. The foliage is light green, grows tall and protects the bloom from danger of frost. This is the third year of selection and it is showing up magnificently.

TEXAS.

EXTRA EARLY. Bi-sexual A splendid mate for any pistillate of its season. It stools up wonderfully, developing an extra big crown system, also a large healthy foliage, which enables it to mature the big crop of highly colored berries. We fell in love with it deeper than ever last year; its berries are deep red, of extra high quality, and is a good shipper, ripening so early that it catches the high prices. The berries have such a delicate appearance when nicely arranged in the box that the very sight of them makes one hungry.

The demand for plants was so great last year our stock was sold out before the season was half over, nearly every order called for Texas, and the indications are that there will be a still greater scramble for them this year than ever, as it seems to succeed everywhere. We have had it under close restriction for three years, making big gains in all points each season.

It is a fine test of the fruiting vigor of a plant. If it is exhausted in its organism, when you cut a runner, it will throw out another runner and often you will find it exceedingly difficult to make it build up fruit crowns. Of course, all plants will make runners more freely if the soil contains a large amount of nitrogen.

The soil must be very rich and the plants should be set in rows 24 to 30 inches apart and about 20 inches apart in the row. It is a waste of land to set them three or four feet apart because the ground would not be fully occupied.

SINGLE HEDGE ROW.

The advantage is that the plants will arrange their foliage so each leaf shall have full sunshine and a free circulation of air all around it. Sometimes the plants stool up too much to permit this and then as good results do not follow. The fruit buds are generally fully matured in the fall. This is of the utmost importance in growing high grade fruit and here they have plenty of time. It makes it easy to hoe and conserve moisture and the saving over working in the matted row is more than the cutting of runners.

THE SINGLE HEDGE ROW.

The single hedge row is an ideal way of growing berries. For hand tillage the rows need not be over two feet apart, but for horse culture at least 30 inches and plants set about 20 inches apart. Let one runner start out each way and form one plant on each side. This makes the plants set about seven inches apart. Then we keep off all other runners and keep the plants, like drilled corn, in a straight row. The runners can nearly all be cut with a sharp hoe or rolling runner cutter as shown in picture. It is a flat disc ten inches in diameter attached to the cultivator by an outrigger with castor action and has a leaf guard which picks the leaves up and pushes them aside and cuts the runners by rolling over them. It fits the 12-tooth Planet, Jr., cultivator, but will work on any by having holes drilled to bolt the outrigger on. We prefer to bolt it to a wheel hoe frame because we can control it much better and make it dodge in and out to get the runners. We use it this way altogether. Use a file to keep the disc sharp. There seems to be an instinct in plants to send the runner out in an open space where they will get air and sunshine, and so you will see a very large majority go across the alley so the cutter will get nearly all of them and the balance can be cut out with a hoe while you are weed fishing.

BEDERWOOD.

MEDIUM EARLY. Bi-sexual. Always on hand with a big crop of most beautiful crimson berries of extra high quality, laying in windrows all around the plants. It is very popular throughout the country and is ready for a large business in almost any good soil; the reports we get on it are all good, its productiveness of such high quality berries is not all for it is exceedingly valuable as a pollenizer. It is a strong grower with an abundance of foliage to protect its bloom, and is also very deep rooted. Eighteen years selection and testing gives us confidence in recommending it so highly.

CLYDE.

Medium early to late, bi-sexual. This is one of Frank E. Beatty's pets. He has five acres of Clydes in one block at his Covington, Indiana, farm, and ships them out by the dray load, some going 225 miles to the Burnet Hotel, Cincinnati, Ohio. It is exceedingly productive of extra large berries that are a most beautiful crimson color, never mis-shapen. They are nearly all the same size, running so even that sorting is hardly necessary; when nicely arranged in the box they look like wax. all moulded alike. One side is a bright crimson while the other has a rich creamy color with just enough pink to make it show off well. It possibly has the longest fruiting season of any on the list. We have had them start to ripen a few days after the earliest and continue with big berries clear through the entire strawberry season.

The foliage is light green and has a wonderful power in building up a big crown system. It is a sight worth seeing at blooming time; the entire foliage is covered with a snow white veil, dotted with rich golden pollen. Use plenty of manure, get your soil rich, use cultivator and hoes often, top dress with 75 lbs. nitrate of soda in the spring before growth starts and the big crimson creamy berries will do the rest. Eleventh year of careful selection; big foliage being the most important point in the breeding.

The cultivator can be made to cover almost the entire surface, making hand work about as small as possible. The dust mulch can be kept on the surface so all the water is breathed away by the plants. The plants will not get too large so as to crowd into the center. The leaves form an oval ridge, giving perfect exposure to sunshine, while the alley between the rows gives ample root pasturage.

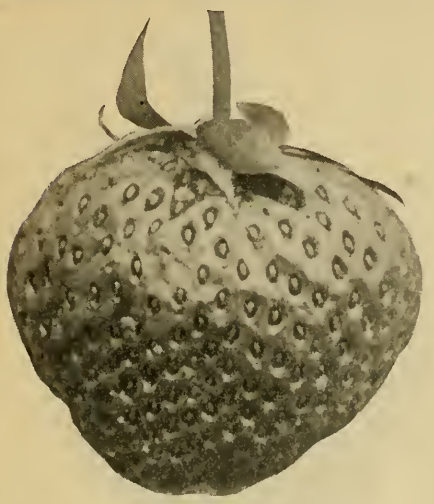
The berries will all be large and even in size so they look very beautiful in the box. There are so few small ones that it does not pay to sort them. The pickers can make more money picking at a cent a quart than at two cents in wide matted rows where they have to spend much time in hunting through a mass of foliage. The berries just lie in wind-rows along each side and about all a picker has to do is to examine their ripeness.

DOUBLE HEDGE ROW

DOUBLE HEDGE ROW.

This is unquestionably the ideal way to grow varieties which are disposed to develop a thin foliage, as for example the Clyde, as they will give more berries with this system than in the single hedge row, and the berries will grow fully as large, making many more bushels to the acre. Their foliage being thin it also makes it more possible to protect the fruit from sun scald. The plants are set twenty-four inches apart in the row, allowing each one to make four runners, layering them so that each parent plant together with the four sets form a letter X; this gives one-third more plants than the single hedge system, and at the same time gives each plant ample room for sunshine and food, so they can do heavy work as they are spread out wider.

Varieties making a thick heavy foliage should not be grown in the double hedge row, as they would make too much shade to develop up a big crop of berries. Each variety should be grown under the system best adapted to its original habit of growth, which will prevent it from laboring under any disadvantage. Make everything congenial for



CUMBERLAND.

EARLY TO MEDIUM. Bi-sexual. It is that great big crimson berry so sweet that even an invalid can eat it. Many people who cannot eat a sour berry can eat of this to their fill. Splendid berry for company when you serve with stems. Not a very good shipper and will look dull if left in sunshine for a considerable time after picking. Pedigree of twenty years selection and restriction. The calls for plants are increasing every year.

LOVETT.

EARLY. Bi-sexual. Extra good pollenizer as it has such a long season of blooming, throwing a large amount of rich pollen. It is remarkably productive of dark red, rather long berries; the picture shows it exactly, good size and very popular in many localities, gaining friends as it goes. The foliage is a dark green with a rich glow. This is the thirteenth year of selection and restriction, making continuous gains and all growers LOVETT.

the plants, giving them all the opportunity possible, and by working to their interest they will most surely reciprocate.

THE NARROW MATTED ROW.

The narrow matted row is the next best. The row is allowed to fill in so when full it will not be over a foot wide. Plants must not be allowed to set so thickly as to exclude sunshine from the crown. Then all the runners are cut for the rest of the season. The rows should be three feet apart and plants about 30 inches in the row. A sharp pointed hoe is best for working around among the plants.

THE WIDE MATTED ROW.

The rows are made four feet apart and plants set about 24 inches apart. As the runners form, the cultivator is narrowed up, always going in the same direction so as to throw them around to fill in the row and generally leaving it about 30 inches wide, with an alley about 18 inches wide. This system has been handed down to us by our ancestors and is still in use. It is perhaps best on very poor land, or where you haye reason to believe there are white grubs.

Our objection to it is that the plants are liable to form too thick and it is a serious task to thin them out because it injures the plants which are to remain. The crowded leaves turn their edges up so they do not have full exposure to sunshine. There are too many small berries and for want of air and sunshine they do not have quality. A small berry has as many seeds as a large one, and since it is the pollen and seeds that sap the vitality of the plant, one big crop uses them up so the second and third crop cannot amount to much. Of course, the berries are very uneven in size and do not look well in the box. The pickers injure the leaves more or less in pawing them over in hunting for the berries, and as a rule the last berries will be too small to pick.

In nearly every case where the plants are quite thick, fully a half or a third of the berries will be left as too small to put in the box, and these continue to take the resources of the plant. We quit the full matted row business 20 years ago.

LOCATION AND VARIETIES.

We are asked many times during the year to suggest varieties and we confess nothing is more difficult, for like choosing personal friends for another, we do not always know just what the personal tastes of the inquirers are. It is a little like choosing the best fellow or best girl for some one else. Some way we can't see with the same eyes nor do we have the same taste. To all these inquirers we have to say that the strawberry is the most universal fruit in the world. Unlike the tree and bush fruits, hardiness is not a factor, since all varieties are hardy. The finest strawberries in the world are found in Alaska, even near the Arctic Circle, and along the Hudson Bay, and the same varieties flourish in Florida, Cuba, and Mexico, and even in South America, Europe and Asia. It is not fastidious, but it does enjoy good food and generous tillage. It succeeds on all good garden soils where farm and garden vegetables will grow.

It is true that varieties, like all other plants, differ in their behavior on different soils and methods of culture. One variety makes long roots and penetrates the soil deeply and will therefore succeed on dry land where another with short roots will require a heavy, naturally moist soil with an extra allowance of

TENNESSEE PROLIFIC.

EARLY. Bi-sexual. An ideal pollenizer and extensively grown in nearly all localities; the latter part of its name is very appropriate, as it is one of the most productive early varieties on our list. It just tries to outdo all the others as a progressive berry grower tries to outdo his competitors, and this is a good disposition for both grower and varieties. Just such hustling sorts as the Tennessee Prolific puts enthusiasm into the grower. It is not fastidious about any particular soil; the berries are a beautiful bright crimson with a mild, rich flavor. The plants are an extra good grower, with long roots that go deep into the soil, enabling them to stand drouth well; it is also splendid for family gardens. This makes the seventeenth year of selections and restriction, which ought to be a guarantee in itself.

WOLVERTON.

EARLY. Bi-sexual. It is a good pollenizer, foliage large and always looks bright and clean, is not fastidious about soils, and the demand for it is greater every year.

It builds up numerous crowns and produces an abundance of big, bright, symmetrical berries, delicious in flavor. It has few equals as a table berry, and with sugar and cream they are so rich they fairly melt in the mouth like so much chocolate candy; this is why it is seen in so many family gardens.

It is another of the tried and true standard sorts. We are increasing our acreage annually, but the demand for our strain of selected plants always keeps ahead of the supply. This year we have made a special effort to grow enough Wolvertons so that customers who send orders early will not be disappointed.

This makes the fifteenth year it has been bred up by selection and restriction, and that is why we can so safely recommend it.

food. Some varieties do have a stronger constitution, just as animals have, and will, therefore, stand more hard usage. Some soils contain a certain element that one sort is especially fond of, and this will flourish while another variety, not caring for that particular substance, would not do so well.

There are some sorts so constitutionally strong in their vegetative parts and so vigorous in their seed organs, that they will do well under almost any circumstances, and these are fellows we are looking for. We call them well tested, and by that we mean they have been grown all over the country on all kinds of soils and under every mode of tillage, and yet they all show up with bounteous crops of delicious fruit.

They are the safe varieties to plant largely. It is our business to keep tab on all these things and ascertain the extent to which a variety has been tested, and its record of failures and successes. Every year great numbers of new seedlings with testimony of their wonderful performances, are sent to us for trial, yet few stand the universal test.

Since commencing strawberry growing over twenty years ago, we have tested hundreds of commended varieties, and out of these have selected fifty-four Cosmopolitan (man of the world), sorts and feel confident a better list could not be made and yet it is true that one grower gets very great returns, and is enthusiastic over a variety while another person gets different results and makes another one his leader.

Select the variety you hear the most generally commended, and then select a few of several other sorts and try them side by side on your own soil, and under your own method of tillage, and you will soon have a favorite list which will guide you in the future.

MANURING IN THE HILL.

It may be that some plants can be manured in the hill, but the strawberry plant is not one of them; for fresh or strong manure of any kind is rank poison to its roots.

If you feel the need of adding fertility put it a little distance from the plant and cultivate it in. The plant will find it as it sends its roots out several feet on each side of the row. If you could wash the soil away from a plant with hose so as not to break the tender feeders, you would be surprised to see how long they grow.

COMMERCIAL FERTILIZERS.

These are now subject to Governmental inspection, and may be relied upon and are therefore being more largely used every year. There are many grades of them, and like strawberry plants, the higher grades are always the cheapest. A ton which costs twelve dollars is not as cheap as one costing forty dollars.

The "cheap" fertilizer is mostly "filler" or dirt or some other substance used to make weight, to which is added the nitrogen, phos-

CRESCENT.

EARLY. Pistillate. Probably the oldest berry in general cultivation, and is still the leader with many growers. A few years ago it was discarded by some on account of its being run out in many localities through careless methods of propagation, but these same growers are taking it back, starting their beds with these thoroughbred plants, which show an increase over their old time vigor, and when confined to hedge or narrow matted row its berries are big enough for anyone They are a beautiful fire red, good shippers and splendid sellers; all these good points combined with its remarkable productiveness are what make it so profitable to those who use plants that are thoroughly built up in the fruit producing organs. Twenty years testing and selecting in our breeding beds, with close restrictions, makes you safe in setting it largely.

WARFIELD.

EARLY. Pistillate. Every berry grower knows that this is one of the greatest market berries of its season on the list. For canning it is unsurpassed. The berries are deep blood red to center, all nearly the same size and true as a top, but no one ever seen a top half so bright and pretty as the Warfield would make. It is superior as a shipper because it carries well and stands up in the box for days, still retaining that bright red color. It starts to ripen its load of fruit a few days after the earliest, ripening an immense picking every day for several weeks, lasting until Gandy starts. It is hardly necessary to mention its productiveness as everybody knows it is a wonder in that respect. The plants never get large in the propagating bed, but just keep them restricted to a hedge row and see them stool up; also see that it is properly pollenized so all the bloom will become fertilized and make big berries. It has had eighteen years of selection and close restriction and it is one of the kind that shows its breeding; succeeds where any berries will grow.

phoric acid and potash, and the amount of these three things govern the value. The cheap fertilizer contains very little of these elements and you have to pay the freight and distribute two or three tons of dirt to get as much food as one ton of the high grade.

Commercial fertilizers should be used in connection with stable manures and leguminous plants turned under in order to get humus. If there is plenty of humus in the soil you may rely on them altogether. The manufacturers have given careful study to the needs of particular plants and furnished special formulas for different crops, and all towns have their agents, so you can get these pamphlets free.

It pays to use manure very liberally. There are three things you can safely borrow money to purchase and these are: Thoroughbred Pedigree plants containing the machinery for making big, red berries; and plenty of power to run them in the shape of manures, and good land. The returns of all these are bountiful and prompt. Use them even excessively liberal for the dividends will be ample.

SOIL BLENDING.

Preparing the soil for certain species of plants is like blending coffee; a decision upon the crop to be grown must be made before it can be prepared intelligently. The coffee blender finds out what is wanted by the trade, whether a strong or mild flavored drink, then goes ahead and mixes in the different grades that will produce the desired flavor. We already have said that all plants do not have the same likes, and judgment must be used to get the proper plant foods in right proportion; then the results worked for are attained, considering other conditions are equal. Well rotted manure is certainly one thing that should not be omitted, as it contains plant food in well balanced form, besides the chemical effect it has on the soil in assisting other plant foods to become available makes it especially valuable; but with all its good qualities there is a right and wrong time to apply it. The ideal way is to manure the ground one year in advance, growing cow peas or some other leguminous crop to take up the strongest part. The potato is an excellent crop to grow in advance of berries, providing land is scarce and cannot be given up to leguminous plants. When preparation cannot be made a year ahead we advise putting the manures on in the winter and early spring, letting the snow and rains wash the liquids into the soil; then in the spring the vegetable part can be worked into the ground with plows and harrows, and if it is throughly mixed into the soil and made fine the effect will be almost equal to preparing a year in advance.

LADY THOMPSON.

EARLY TO LATE Bi-sexual. Largely planted in the South, and it suceeds well almost everywhere but seems to have a preference for sandy soils. It is a splendid shipper, very prolific of bright red berries, shaped like a top and of fine quality The plants are rank growers, making runners freely, and should be grown in narrow hedge rows to get big bright berries. It is deep rooted and keeps on growing right through a drought; is also a good pollenizer Every year we make selection ic shows a big increase in points and develops up rapidly.

RIDGEWAY.

MEDIUM EARLY TO LATE. Bi-sexual, and a most beautiful shaped berry. They are great, big, bright fellows with a shiny gloss. You never get tired of looking at them; they are so good, the more you eat, the more you want. The large, round beauties are so smooth that they certainly present a handsome appearance when nicely arranged in the box. The plant is a thrifty grower and produces abundantly; it is a splendid pollenizer, being extra rich in this respect. Eight years of selection with careful breeding.

The ground never should be plowed when it is wet enough to paste; test first by rubbing it through the hands, seeing if it crumbles; never go deep enough to turn up any subsoil; remember that fineness, firmness and thoroughness bring success.

CONGENIAL MATING.

We operate the largest strawberry experimental beds in the world, and in making extensive experiments many discoveries are made, and those that are found to be of value are incorporated in this book for the benefit of fruit growers who are searching for the latest and most scientific methods. One item of much importance is that of congenially mating varieties. Bushels of berries are lost annually from improper pollenization, besides many more from the same cause are knotty and poorly developed. Immediately after the pistillate or female flower opens, the stigma is most receptive and if the male or bisexual which is used for the purpose of pollenation is of the same season and strong in potency of pollen the ovules will all be fertilized, fecundation taking place at once; this insures a perfectly developed berry. When setting the plants, if this feature is neglected, it most invariably happens that either the stamens or pistils of the flowers mature in advance of one or the other essential parts; for instance, the stamens may mature, the anthers burst and pollen thrown upon the pistil before the stigma has yet become receptive; then the ovules are not fertilized. Or, on the other hand, it may be that the pistil has fully matured before the anthers open, thereby causing a blank bloom.

Take, for instance, the Warfield, which is a pistillate of great value when properly handled; it has a long, flowering season and for best results it should be mated on one side by an extra early bisexual or male variety and on the other side by a medium season variety; this will furnish sufficient pollen at the right

Effects of Imperfect Pollenization.

time for every flower and cause perfect pollenization, thus producing the proper effect for a big crop of perfectly developed berries. A male plant that has been weakened by pollen exhaustion from any cause should never be used for mating the female. Excessive breeding without restriction causes weakness in the vital organs of plants, the same as in animals. The scientific stock breeder guards

GLENN MARY.

MEDIUM. Bi-sexual. The demand for our strain of plants of this variety is increasing every year, and it is a busy work for us to grow them in sufficient quantities to fill our orders every year. The Glenn Mary is growing in popularity everywhere and it would astonish us to get a bad report of it.

On our trial grounds both here and at Covington, Indiana, they surprise everybody who sees them. They are immensely productive and in size regular Jumbos; they are of the deepest red, with a mild delicious flavor that is not soon forgotten, and the customer will call for it the next time; the more he eats of this variety the more he wants. It has no particular choice of soil and doesn't require any petting.

The plants are large with strong leaf and fruit stems and lots of them; the long roots enables it to stand any reasonable drouth. It isn't necessary to enumerate all of the many good points of this grand leading variety.

This makes the eighth year of our selecting it.

WILLIAM BELT.

MEDIUM TO LATE. Bi-sexual. It still wears the belt for bigness, richness and beauty. It is exceedingly productive of a large berry, the color of which is a bright glossy red, shaped much like the Bubach. The foliage is a large, light green, broad leaf and upright in growth.

We have bred it up nine years by selection and restriction and know whereof we speak. None better for the family garden and it does well on any soil.

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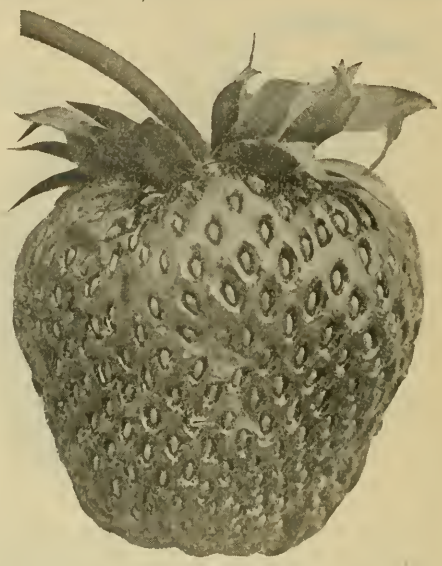
against this more than any other branch of his business. This explains why some people succeed and why others fail. Berry growers who are not familiar with the principles of congenial mating will be furnished with information by asking, and it is to the growers' interest to send their orders in early as pos-

Strawberry Plant before Pruning.

Strawberry Plant properly pruned, ready for setting.

SPLENDID.

EARLY TO LATE. Bi-sexual. No one could possibly select a better name for this grand variety for it surely is splendid; also unusually productive of dark red berries, almost round and very smooth and even. It scarcely needs any grading as almost every one can be put in the fancy grade. The foliage is a rich, dark green that fairly shines. We have seen the berries lay so thick along the rows that the foliage had to stretch to cover them all like a hen trying to protect her brood of chicks. We are not afraid to recommend the Splendid because it never disappoints. We started to breed it up shortly after its introduction, and it is now showing up grandly.



PARSON'S BEAUTY.

MEDIUM. Bi-sexual. A remarkable producer of bright red berries, firm and attractive, having yellow seeds that, when placed in a neat crate, shine like gold. The berries are conical in form and hold their size up to the last picking, and as it has a long fruiting season it is a profitable variety. It is also an excellent canning berry.

It is a luxuriant grower, with bright green foliage so highly polished it fairly glistens in the sun; it presents a most beautiful sight in the blooming season, with its flood of flowers peering through and above its foliage. It is one of the strongest pollenizers among mid-season varieties for pistilate varieties of its season.

It is difficult to describe a variety having as many good points as this one; we were enthusiastic over it during its first fruiting season with us, and after three years of careful selection we are perfectly secure in our statements concerning it. You will make no mistake in giving it a trial.

sible so we can see what varieties they are going to set; then we can mate them intelligently and if there are any mistakes made in the selection it will give us time for correspondence, and the error can be corrected by mutual consent.

SETTING THE PLANTS.

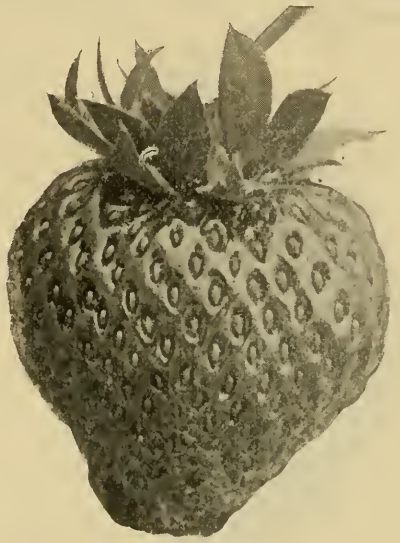
We have used a number of different tools for setting the strawberry plants and have found the dibble most practical on account of its simplicity. It is made of steel, one-eighth inch thick, four inches wide and ten inches long, with a wood handle, as shown in cut. Taking it in the right hand, it is thrust into the soil about six inches, pressing it from you to make an opening, holding it there to prevent the top dirt from falling in; we then take the plant in left hand, giving it a quick motion to spread the roots, which also throws them down straight into the opening and brings each one in contact with the fine soil; holding the plant so the crown will be on a level with the top surface we withdraw the dibble and plunge it down two inches from the opening and force the soil back hard against the plant, at the same time pressing the dirt with the left hand. The work is done quickly and one man can easily set two thousand plants a day and do good work. Our men keep their left knee on the ground, which is padded with an old sack; the plants are kept in a tight basket with a sack thrown over the top to shade them. The basket is pushed along on the ground with the left hand while the dibble is kept in the other; while making the opening with right hand the left is getting a plant ready to set and not one motion lost. We generally employ about thirty men to set, with our regular foreman walking behind, seeing that each one is doing careful and thorough work. All leaves are removed and the roots cut back to four inches so they will callous where this cut is made and send out feeders, making a much heavier root system. With nothing to support but a crown and roots, the plant will start growing vigorously. It is a big mistake to set plants with large foliage and double the roots up instead of pruning them; no matter how favorable climatic conditions are, the plants are checked and quite often results in losing a big per cent of them. It is a heavy strain on a newly set plant to sustain a heavy foliage before the roots become established in the soil. Properly pruning them reduces the strain, giving the roots a chance to take hold of the soil and start feeding; then it is in a good physical condition to build up and support a strong, healthy foliage and it has a decided advantage over the plant which has not been pruned.

SOIL CULTIVATION AND ITS EFFECTS.

A thorough preparation by making the ground porous and spongy, with a deep plowing, which should be broken down to the subsoil, is the important starting point of soil cultivation; the deeper you get your soil and the more perfectly it is fined and firmed, the

KLONDIKE.

MEDIUM. Bi-sexual. This is certainly the real Klondike. It isn't necessary to kiss your wife and babies good-bye and go to Alaska for riches; you can now have a Klondike right on your own farm that will mine out the pure gold without taking any chances. Another year has passed and it shows up in big, roundish berries better than ever. It is very prolific, the berries are large and smooth and they hold up in size throughout the season There is a great scramble for it among the Commission dealers on account of its firmness and reaching the market in such fine condition. Growers are wild over it in the South as well as in the North, and a large call for it came to us last season, several asking for fifty thousand plants, and telegrams were also received late in our shipping season asking if we could furnish plants for large acreage. This year we have a large stock of this grand variety priced along with our other standards. We have taken it through the third year of selection in our breeding bed; it proves to be a money maker in all localities.

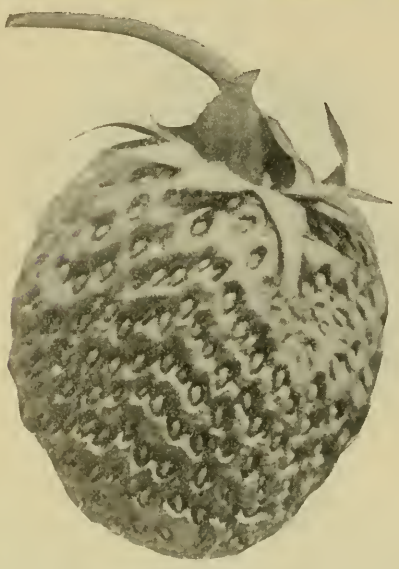


MONITOR.

MEDIUM TO LATE. Bi-sexual. Introduced from Missouri six years ago; tried and tested at all the experiment stations. It is very productive, large berries, light color and most splendid flavor, just as true as a top; picture shows it exactly, an extra meaty berry and one of the very choicest for table use. Every family garden should include this one as they are so big; no trouble to get your company to stay for dinner when these are ripe. Foliage a dark green and a thrifty grower. Selected six years in breeding bed.

greater is its capacity for holding moisture. In the warm days of spring, when the plants are undergoing the strain caused by resetting, they need a great amount of moisture and hence cultivation should start at once after the plants are set. A dust mulch made by frequent cultivations will close up soil capillarity, preventing moisture from escaping; it is also effective by bringing available plant food near the warm surface so the roots can take up the material needed to give the plants a vigorous growth.

Most soils have enough plant food to produce a big crop of berries providing it is made available by bringing it into a soluble condition. This is best done by working in vegetable matter, incorporating it thoroughly with the soil, working it up fine and firm so moisture shall be retained to dissolve the plant foods and combine them with the soil grains. Clods may be full of plant food but it is locked up and is of no value until fined and dissolved by moisture. It requires five hundred times the amount in weight of water to build up one pound of solid material in plants and the roots can only feed by absorbing liquid solution; therefore it is essential that sufficient moisture be present at all times during the growing period. Plant food digestion in the soil is a process somewhat similar to that of digestion of the animal stomach and too much vegetable matter or humas may cause indigestion if not rightly distributed and evenly mixed with the soil. More generally indigestion of the soil is caused by the failure of digestive bacteria to develop, or the wrong kind being present. Tillage is one of the chief means of hastening digestion of plant foods and bringing them into activity. It is true that intensive cultivation has a tendency to burn the humus out of the soil by the changing and turning up repeatedly to the sun, and the addition of fresh supplies of vegetable matter must be given proportionately to the amount of tillage. Frequent pulverizing by cultivation increases soil bacteria, showing conclusively that a certain amount of cultivation is necessary in order to keep bacteria, moisture and plant food working together to get a satisfactory growth. Bacteria is also increased by the introduction of humus in sufficient quantities to form food for them, and their growth is stimulated by continuous tillage; also a better aeration given them by frequent cultivation as well as conservation of moisture. There is some danger, however, of cultivating too often, bringing plant food into a digestive form and making it available faster than the plants can use it to good advantage, thus causing a waste. Soil should be cultivated as soon after each rain as possible, taking care not to work it until the top surface will crumble, repeating this in five or six days; afterwards every eight days is often enough until rain comes again. By these cultural methods plants can be taken through two months' drought without any material check in their growth. We find after the dust mulch lays eight or ten days undisturbed it becomes settled, letting the mois-



MILLER.

MEDIUM TO LATE. Bi-sexual. Of great merit, throws a large amount of pollen. Its popularity is not coming, but already here, and why shouldn't it be popular when it is one of the very best of its season? The berries are almost round and uniform in shape and size, bright red color, one of the kind that looks as though it had been painted just to attract attention. Well, if it were it has accomplished the purpose, for no lover of nature can pass it by without admiring its beauty, but the beauty only tells half the story; the productiveness and rich flavor makes up the other half. It throws out an extra heavy foliage of a most beautiful light green, with a graceful spreading habit, and it makes numerous runners so the grower can train them to suit himself. The great contrast between the foliage of Miller and all other varieties on our grounds is very marked. This is the fourth year of selection in our breeding bed, showing a better record and more points of excellence each year. Reports of Miller from Covington trial bed gives it same points as here.

NICK OHMER.

MEDIUM TO LATE. Bi-sexual. One of the very largest berries on the list, is a valuable variety on account of large size, high quality and bright red color; very firm, making it an extra good shipper. The foliage is simply handsome, such large, broad, thick leaves; it is easily distinguished from all others in the field. If it is big, bright red specimens you want, this will suit you. It has been bred up seven years in our trial grounds, making selections from mother plants showing highest points of excellence.

ture work up so near the top that there is danger of waste by evaporation, the capillary power becoming stronger as the per cent of water in the mulch increases. This is why the importance of frequent cultivations during a drouth cannot be overestimated.

HOW DEEP TO CULTIVATE.

We find that cultivating to a depth of three inches has a big advantage in conserving moisture over a less depth; it gives a thicker dust mulch, making it more possible to hold the water from getting away by evaporation. The top soil should be stirred at least once every eight days whether it rains or not; this disturbs the old mulch and replaces it with a fresh one. Continued cultivation through a drouth will check evaporation more than one-half. Our cultivators are so arranged that the tooth next to the plants is one and one-half inches shorter than the others, which prevents the danger of cutting roots; the three inch depth should be continued until about September 1st, then shallow up a little next to plants but going deeper in the center. Roots come nearer the surface in the fall and should not be disturbed as this is the time of year when the fruit buds are forming. Keep cultivator to outer edge of foliage, breaking crust that forms near the plants with hoes; this will keep moisture in reserve for the plants to use in building up their fruit bud system. We have never found any better tool for the strawberry field than the Planet, Jr., 12-tooth harrow, with the pulverizer attachment at the rear. We use it altogether and can furnish it to our customers at manufacturers' prices. It sometimes happens that land is exposed to a long sweep of wind and when heavy winds prevail it will raise the dust and often throw sand against the plants so as to seriously injure them. This is prevented by large cultivator teeth throwing the ground up in ridges. This breaks the friction on the smooth surface so the sand cannot rise.

*Send for our special catalog of tools.

SPRAYING THE PROPAGATING BED.

In propagating these thoroughbred plants it is our whole aim to produce the best and most perfectly developed plant possible, and in order to insure our customers the best we feel it our duty to use every precaution known to the plant breeder's art, and spraying is one thing we would not dare to neglect. With all the good effects derived from its continual use we wish to emphasize the fact that it is only a preventative and not a cure; it is done with the same object in view that medical science has in vaccination. This is done to make the patient immune to smallpox, while we spray plants to make them immune to all fungus attacks. Therefore it is quite essential to start the spray machine early enough to head off the enemy if there be any. We willingly admit our cowardice, and lest there should be an attack we start our spray machine as soon as the plants are set, working on the same theory as the man who said he

NEW YORK.

MEDIUM TO LATE. Bi-sexual. A strictly fancy berry and a prize winner; it is simply grand, one of our pets. The berries are all big, bright red fellows that sell at first sight. It has a lasting flavor that wins customers, and is just the kind to make the berry grower famous. Small, inferior berries have no show beside the New York no matter how cheap they are; it is very prolific, with a long season of ripening. It has a most luxuriant foliage of light green, and when loaded with its big, bright colored berries it is such a grand sight that it wins friends wherever grown. The plants from this variety have been selected in our breeding bed five years, and its behavior is the same at our Covington trial beds.

UP-TO-DATE.

MEDIUM TO LATE. Bi-sexual. Quite hardy in blossom, very prolific of light red berries of high quality, and a most splendid family variety, as the fruit is rich and meaty. The foliage is light green with a large, long leaf, with long stems which protects both bloom and berries from frost and hot sun. This is the 9th year of selection from ideal fruiters.

always fired his revolver two or three times from the window each night to scare any burglar that might chance to be prowling around, admitting that he would rather be called a coward than to get licked. Different methods must be followed than those used in the orchard, inasmuch as the strawberry is continually making new plants. To make sure that every leaf is kept copper plated the machine is kept busy nearly all the time, using Bordeaux mixture with seven ounces of Paris green to each fifty gallons; this amount of arsenite can only be used when the Paris green is dissolved with lime while slacking it; this neutralizes the acid completely and avoids the danger of burning the foliage; otherwise we could only use four ounces to each barrel. We want to make it strong enough in the arsenite so if any leaf eating insect should put in its appearance it would only be necessary to feed it one meal. It is our aim to be very sociable, but we are too busy to entertain any one of the insect family. In starting the spray machine immediately after the plants are set, Bordeaux mixture with Paris green is used twice; after the second time we follow with liver of sulphur spray as a protection from fungi of the mildew class, using this after every two sprayings of the Bordeaux mixture. We do not care to have anything in the nature of fungi or insects tampering with the lungs and stomach (foliage) of our plants, as it requires a healthy, vigorous foliage to digest the food, breathe in carbonic acid gas and pump up moisture to keep all machinery of the plant working harmoniously, which builds up a well balanced and perfectly developed plant. We are so thoroughly convinced of the merits of spraying that we have equipped our farm with an entire new outfit, consisting of a building 20x40 feet, which is located in the center of the farm, a drive well with force pump which throws the water direct into the spray barrel, a stove for heating water to slack the lime, a power machine having a gearing on the axle which operates the pump, giving even pressure all the time, thus covering every plant evenly with a perfect mist; also mixing barrels and scales. Everything is so convenient that one man sprays eighty acres in three days. We have never urged the berry growers to spray their fruiting beds where they use healthy plants that have been thoroughly sprayed in the propagating bed, and yet we admit that if they would continue the spraying in the fruiting bed it would lessen any danger of attack. Whether spraying is kept up or not by the grower, we do advise that they mow off the leaves after first fruiting season and when they are dry burn the entire field over when the wind is blowing briskly, so as to drive the fire over quickly; then there is no danger of injuring the crowns. (See article on treating the old bed.)

SPRAY RECEIPTS.

For one barrel of Bordeaux mixture:

4 lbs. lime slacked in 4 gals. hot water.

4 lbs. blue vitrol dissolved in 4 gals. water.

7 ounces Paris green and 1 pound good unslacked lime.

Put the Paris green on the lime and slack with enough hot water to cover well. Mix as follows: Put 10 gallons of water in the barrel, to which add the 4 gallons of blue vitrol solution and another 10 gallons of water, then the 4 gallons of lime solution and 10 gallons more

SENATOR DUNLAP.

MEDIUM TO LATE. Bi-sexual, and an extra strong pollenizer. This is the seventh year of selection in our breeding bed and we continue to get more enthusiastic over it each season. In giving the descriptions of it each year we never made them as strong as we felt it deserved, and after seeing it in fruit another time we can't hold back any longer. The fruit is large, rich and dark red, clear to the center, with a very rich flavor; berries are so even that they very seldom need any sorting and exceedingly prolific. The plants are a beautiful deep green with long leaf stems and roots that penetrate the soil so deep it would take a long drouth to check them from developing the big load of berries; its runners form freely, and when kept in narrow rows they stool up wonderfully, making crowns by the dozen; is at home in all localities and on all soils. Just take a long look at the picture; it shows its size and shape; now add the high color and rich flavor and isn't it a perfect beauty?

HAVERLAND.

MEDIUM. Pistillate. The berry of all berries for productiveness, and a great money maker. Don't forget to mulch them for the fruit stems are not able to hold the load of berries up from the ground, and the straw will keep them clean. They are large, long, conical, and a bright crimson color. The pickers all get happy when they get into the Haverland patch; you can't see them move, but just sit down and keep filling the boxes, slipping one of the big juicy fellows in their mouths occasionally, not a word is spoken, everybody down to business Time is money while picking Haverlands. It has a good foliage, making runners freely, and sets large strong plants.

Remember we have been breeding it up for fifteen years and now have it near our ideal. It is a great favorite and succeeds everywhere. We have never had enough of these plants to fill our orders. This year our acreage is more than doubled.

of water; next add the solution of Paris green and lime and sufficient water to make 50 gallons. By mixing in this way the solution will not curdle, nor should the materials be put together till they are wanted for use. For less amounts, say 10 gallons, use correspondingly less amounts of blue vitrol, lime, Paris green and water.

The solution of liver of sulphur (potassium sulphide), an effectual remedy for mildew, is readily prepared by dissolving a half ounce of the sulphur in one gallon of water.

GROWING STRAWBERRIES TO ORDER.

"Growing big crops of fancy berries is like any other business: one must become enthusiastic and love the work, be up-to-date and progress with the times, never following anyone that is a failure, but rather choose for a pattern those who have won an enviable reputation. To become the master of any work it is necessary to have an instructor who has become an expert specialist in the particular work chosen, and the study of the strawberry is no exception to this rule. In growing this best of all fruits, one must keep in mind that there are many different varieties, each one possessing a habit and disposition of its own; and to accomplish ideal results it must be handled accordingly. An expert horse trainer would handle each horse according to its own peculiar disposition; he would not attempt to handle a nervous, ambitious animal in the same manner as one of a quiet nature, any more than he would handle a trotter the same way as a heavy draft horse; nor would he feed them on the same class of grain. He first studies the habits and likings of each particular horse then goes ahead and trains it to be valuable for the particular work to which it is best adapted. And right here is a valuable lesson for the strawberry grower. The habits of each variety should be closely studied in order to discover its likes and dislikes, then proceedings can be carried out intelligently. To make this important branch of the business plain, we will give an illustration, using the Clyde and Gandy, as their habits of growth are opposite. In breeding up the Clyde, we choose a mother plant possessing the disposition of a strong foliage habit, throwing up lots of long leaf stems, continually breeding for a perfect balance in foliage and fruit, giving sufficient attention to other features to keep them to the normal standard. In preparing soil for a Clyde fruiting bed large quantities of fertilizers rich in nitrogen are used, and well-rotted stable manure furnishes this in the best proportion with the aid of stimulants at the proper time. All manures should be thoroughly incorporated with the soil. Rows are marked out three and one-half feet apart and

ENORMOUS.

MEDIUM TO LATE. Pistillate. It is certainly enormous and is a heavy producer; berries are always large and bright red, about the same type as Bubach, and good quality, sound and meaty to the core; seems to be at home on all soils The foliage is very large and a perfect type, growing tall, making ample protection for both bloom and berries, which is a point to be considered in any berry In breeding up plants we score the foliage and habit of growth by points the same as the crowns and berries, and the Enormous is now going through the tenth year of selection and restriction. Therefore we are not afraid to stand by it.

KANSAS.

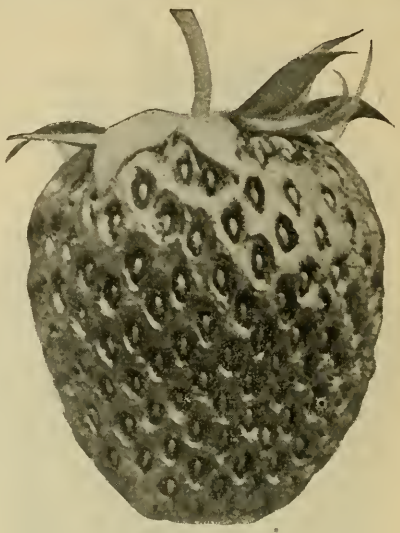
MEDIUM. Pistillate. It has an extra hardy bloom and is very productive of high quality berries, which are dark red clear through; this is just about the reddest berry we ever saw. They are medium to large and high quality; it is a money maker when mated with the right bi-sexual variety, and there are many on our list that mate it perfectly. The plant is extremely vigorous, with long roots that keep it continually growing rain or no rain, and it always gets there right on time with its load of berries It has been tested at the Covington, Indiana, trial bed and shows up grandly there same as here. Everywhere it has been tested we are getting good reports. It has been under strict test on our trial bed since its introduction, this making the eighth year of selection.

the plants set every twenty-four inches, allowing each one to make four new sets, layering them zig-zag to form a double hedge row; this gives each one an abundance of sun and air, also assists the foliage in furnishing protection for the big load of berries. Intensive cultivation and hoeing is given them until quite late in the fall; this forces a vigorous growth of foliage and at the same time holds the fruit buds in check; preventing them from over-balancing other parts of the plant. Cultivation is continued until light freezes occur, when they are covered with a good mulching of straw, corn stalks or coarse litter; by furnishing this protection early, the foliage is kept in good condition to start up a vigorous growth in the spring. This mulching is parted directly over the row as soon as growth starts the next spring and a dressing of nitrate of soda given them, using forty pounds to the acre, scattering it along the plants before a rain, which dissolves it and they take it up at once; this feed lasts until the buds form, when the application is repeated, using same amount. In giving this stimulant in two doses it builds up a much heavier foliage, keeping a continuous growth to mature the big load of berries, at the same time preventing any danger of causing the fruit to be soft, as would be the case if given to them in one feed. It is possible to over feed plants, just the same as animals, and to overdo it in either case is bad practice and always results in a loss.

Now, to attempt growing the Gandy under the same cultural methods as the Clyde would not result in a full measure of success, inasmuch as its habits and likes are contrary to this variety, it being deficient in fruit production but throwing its energies more to foliage. The ideal mother plant of the Gandy variety, showing a heavy crown building tendency is the one chosen, productiveness being the principal point in mind; working along opposite lines to those followed in breeding up the Clyde, though having the same aim in view, a proper balance in foliage and fruit, holding back the one and building up the other. In preparing the soil for a Gandy fruiting bed, nitrogenous fertilizers are avoided, using principally those rich in phosphoric acid and potash; using liberally of finely ground bone meal and muriate of potash, working in enough humus to make soil bacteria active. This forces the development of fruit buds rather than stimulating foliage. In setting the Gandy, they are put thirty inches apart in the row on account of making long runners before forming sets. Each mother plant is allowed to make six sets, spreading them out to give each one plenty of room to do heavy work; they can stand thicker in the row than Clyde because

HERO.

MEDIUM TO LATE. Bi-sexual. A most vigorous grower and a reliable variety; a Hero in every respect, very prolific of bright red, firm berries of good quality and especially fine flavor. This is another good variety to use as a pollenizer and it seems to do well on all soils; the foliage is a rich dark green with long leaf always looking bright and clean. The call for it last year was double that of any previous season, and we hope to see it more largely tested this year It has been selected five years in our breeding bed and we feel free to recommend it.



DOWNING'S BRIDE.

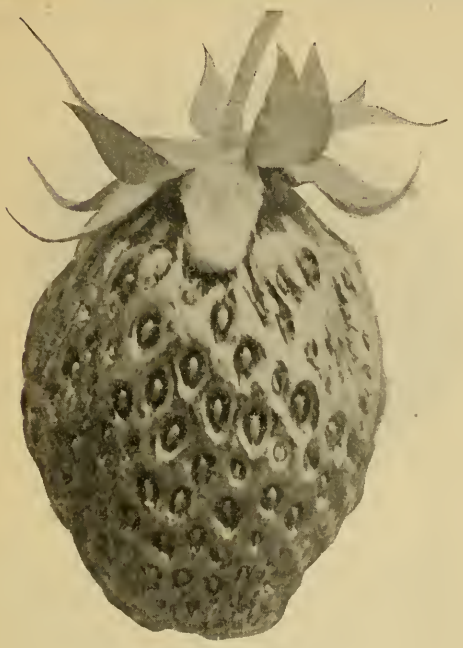
MEDIUM TO LATE. Pistillate. We were extremely enthusiastic over this variety last year, but wanted to give it at least one more year's test and selection before giving our final opinion. Now we know whereof we speak, and it is certainly one of the most beautiful berries we have ever seen; so pretty and glossy that even a sight of it through the fence makes the mouth water. Almost any young man would give all he has for a bride as handsome and sweet as Downing's Bride; its value is not alone in its beauty, for the big berries lay in windrows around the plants. It has a large, broad leaf, making a heavy foliage, which droops over just enough to shade the berries from the hottest sun rays, and sends out long runners before forming the nodes, and so does not set its plants close together, even when let run at will Three years under selection and restriction in our breeding bed with the price so reasonable makes us safe in recommending this variety so highly; it was tested at our Covington, Indiana, trial bed with same results as here.

they do not make so many crowns, and by increasing the number of plants the number of fruit buds are also increased, providing judgment is used in not allowing them to set too thickly. Air and sun must never be overlooked as they play an important part. Much attention is given to increasing the potency of pollen of this grand variety, keeping this in mind through its breeding with the aim both to increase and strengthen it, as past experience has proved that it is deficient in this respect. Until we get it nearer perfection in this point we urge growers to use Aroma every fourth row or some other good variety of its season, to furnish pollen for any bloom that might be lacking in this respect. Cultivation is discontinued much earlier than on the Clyde, the last one being given from the 1st to 15th of September, according to the season, going deep enough at this time to sever a few roots which will check the growth of foliage and force its energies to forming fruit buds. This is what we must have to insure a big crop of berries. The same differences exist in all other varieties and the question of soil and location is not so much to be considered as in knowing their habits and getting them under full control. This is what we call scientific culture, or making strawberries to order."

The above article, prepared by our Mr. F. E. Beatty for a fruit journal, received the distinction of being quoted in the Government Experiment Station Records of the Department of Agriculture, Vol. xv., No. 7, page 678, being accepted as authority.

THE TIME TO LAYER RUNNERS.

There is always a right time when everything should be done, and we find that the berry grower who is doing everything at the right time in the right way is the one who is making money. Setting the runners at the right time is just as important as any of the other work connected with berry growing. The physical condition of the mother plant should be considered and if any weakness is shown from any cause, remove the first runners; this will throw more strength to the mother plant and give her a chance to outgrow the weakness and develop power to produce strong offsprings as it is now a settled fact that like begets like. All mother plants that have a thrifty growth will send out plants of the same strength and their first runners can be layered. One must decide what system is going to be followed, then layer the runners accordingly. For instance, to grow the single hedge system the runners should be layered directly in the row about seven inches apart; to form the double hedge, layer them zigzag, allowing each mother plant to make four sets instead of two; simply place the runner where you want it, then put dirt just back of the node: this will hold it in place and also retains moisture, which will greatly assist the forming of roots. They will penetrate the soil and start feeding at once, thus lessening the strain on the mother plant from which they draw nourishment until their roots are well fixed in the ground. It isn't necessary to sever their connection from the mother plant, as nature provides for this by the runner wire gradually withering away. The strawberry plant gets its nourishment from the mother plant by a process somewhat similar to the



PRIDE OF MICHIGAN.

MEDIUM TO LATE. Bi-sexual. And this is a wonderful variety as sure as you live. We have been testing and selecting this grand variety for three years, and this year were elated with its behavior. Turn to page 11 and see the picture, which shows it when in bloom in our fruiting bed. It was fairly a sea of bloom and every blossom made a big red berry.

We do not need to mention that the foliage is large, as the picture shows that. The berries are a bright red, of beautiful form and firm; it is exceedingly productive and has a long season with the last picking almost as big as the first; it is rich in flavor and an ideal berry in every respect. A few cents difference in price cuts no figure with such a berry. We have not mentioned this favorite before, but just kept selecting and propagating until all variations were eliminated, and now we take pride in adding it to our list.

SUTHERLAND.

MEDIUM TO LATE. Pistillate. Prolific as Warfield, and the berries are fully as large; bright red to the centre, firm and good quality, doesn't vary in size, but holds out with nice berries to the last picking. They hold their rich, lustrous color for days after being picked, but just place them nicely in the box and they won't get a chance to keep for several days. People are too hungry for bright red berries to allow them to set around long. The foliage is dark green of the rich shiny type and large enough to develop up a big crop of berries. After three years of breeding and selecting from ideal mother plants we see nothing to prevent its becoming a favorite.

calf's getting its nourishment from the cow. We all know that it is next to an impossibility to fatten a cow with the calf depending upon her; so it is impossible for a plant to develop up a big crown system with a large family of runners flopping about on top of the ground, continually drawing upon the mother plant for their sustenance, by having no roots to feed from the soil. So you can readily see the importance of assisting the runner plants to take root as soon as the node forms. Never overtax the mother plants by allowing them to set too many runners after the row is formed to suit your ideal; keep all the rest off; this will aid both mother and young plants to build up a big crown system. Every runner removed gives the mother plant one more boost. We know it takes a little courage to break off strong, promising runners, but it is like thinning the peach, plum, apple tree, etc., it must be done to get the best quality of plants and fruit and the most of them.

WINTER PROTECTION.

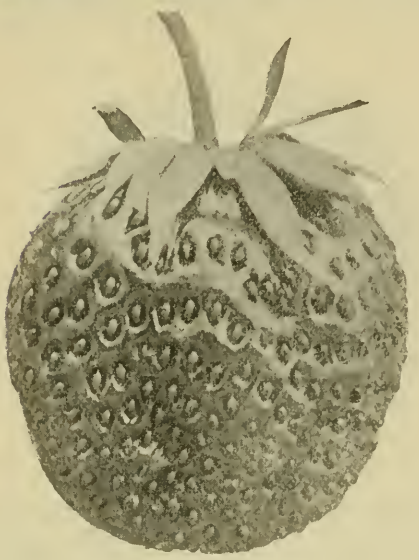
The strawberry plant is among the hardiest fruit plants grown, and yet there is none that pays better for its winter protection.

It is not freezing that injures the plants, but when it freezes every night and a bright sun shines the next day it thaws and then the ground contracts and pulls the plants up, often straining or breaking the roots. If they are shaded with a light covering they will not thaw out on these bright days, but remain frozen solid, and when a long warm spell does come the frost dissolves on the under side of the frozen part first, so the plants cannot be injured.

Old staw or cornstalks, if easily obtained, will do, and swale hay is also very fine. Leaves are apt to pack down and smother the plants if used too thickly, but they can be used between the rows and a lighter material or lighter covering of leaves be used on the crowns. Stable manure will do between the rows. It some times starts a weed growth, but they are easily disposed of. It must never be put on until after the ground freezes hard enough to enable a team to walk over it or so wheels will not break through. If put on early and a warm spell follows it would make the plants bleach and become tender. Slight freezing when the earth is not frozen deep will do no harm, as the foliage prevents it from thawing fast.

Always mulch your propagating bed. Put it on thin early, and when the ground is frozen deep put on more so the ground will not thaw out early and keep the plants cold and dormant until you can have time to fit your ground. The roots callous during the winter and get ready to send out new roots when it comes warm, and so a dormant plant will start off vigorously.

Never risk your money on any plant grower who does not mulch his plants. This matter is so important that he would not fail to call attention to it in his catalog if he did so, and



PRESIDENT.

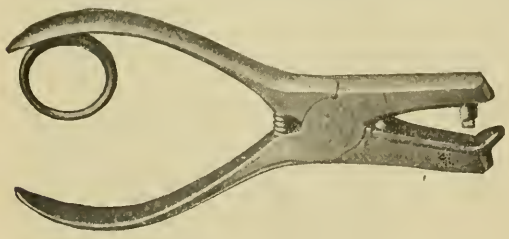
LATE PISTILLATE. A president that is neither a Republican, Democrat nor Socialist, but is a great favorite with all parties. We hope that the man who is elected will have as many good points as this president has and will perform his duty as well. This one certainly has a good parentage, the Crescent crossed with Nick Ohmer. It combines size, quantity and quality in one, has a large leathery foliage, is an erect grower, holding its load of big berries well up to protect them from the dirt. The berries are a clear, bright red with such aromatic flavor that they are just the kind to serve with stems. They build up crowns as large as any we have ever seen, and it surely is an abundant producer of such a high quality that they always bring the top price. We have had it two years under selection, watching all points closely and the good ones are many.

CHALLENGE.

MEDIUM. Bi-sexual, and a grand variety; big enough for a show berry, pretty as a Queen, and sweet enough without sugar, with a color that is dark red to the very center. The picture shows it exactly, not so uniform and smooth as some, but the size, color and rich flavor will make customers beg for them at almost any price. They fruit abundantly for such a large berry; don't be afraid to set this variety largely, for your customers are going to feel cross if they don't get enough. They make large, vigorous plants that root deep and are able to get an abundance of moisture to develop up the big crop of berries. The foliage is pretty, having a waxy appearance that makes a glossy shiny streak across the field that you never get tired looking at. Our books show the third year of selection, and it shows business by stooling up readily.

plants that have not been mulched during a hard winter are dear at any price.

Plants may live and bear fruit fairly well if not disturbed on sandy soil when not mulched because new roots will start from the crown, but when it freezes and thaws it will break the roots and then when taken up they will fail and leave long vacant spaces in your field for you to cultivate for nothing, which takes the "cheapness" out of the "cheap" plants. "Plants that grow" are plants that have been mulched, and the same thing holds good when a nurseryman wants you to "save money" on plants. See that stock ordered has been properly developed, sprayed and mulched.



THE BERRY TICKET PUNCH.

This punch will cost the berry grower about 35c; it can be purchased at almost any hardware store, and if not kept in stock the merchant will gladly send for one. It will last a lifetime and is almost indispensable on the berry farm as it will save enough mistakes in one day to pay for itself twice over.

THE PICKERS' STAND.

These can easily be made by any berry grower. Simply get a bunch of common lath and some strips one inch square, which is used for the legs; cut these strips up into pieces about 8 inches long, then cut the lath about 12½ inches long, the size of quart boxes you use will determin the length of lath; you want them large enough to hold four quarts, allowing enough room so the boxes will go in and out easily; nail the lath to the legs, also two cross strips to nail the bottom to; then take a strip of tough hickory or elm and bend over for the handle, any piece that can be bent will do, or you can nail two straight strips up the sides and one across the top, which will make a good handle; it will pay to make them strong. One man can easily carry four of these stands full of berries at one time.

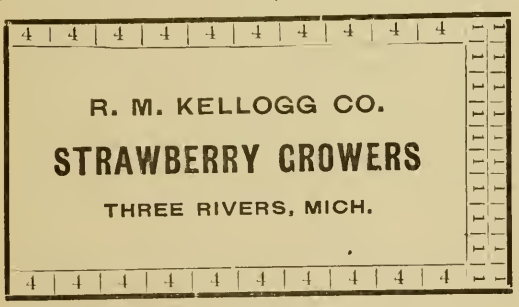
ARIZONA.

EARLY, MEDIUM AND LATE, AND ALL THE TIME. Bi-sexual. This is the great California everbearing. It develops its buds at any time and keeps right on setting new buds and ripe ones forming at the same time. As a rule, everbearing sorts have not been successful in the East, but it has been widely tested and we feel like offering it to customers who love berries all the fall. It comes the nearest being everbearing of any variety of this class we have ever tested, and it will be a good investment to add a few plants of this one to your list. The berries are large, very rich in flavor, and lots of them. The foliage is large, with an upright growth, and extra dark in color; it has a wonderful crown building power. This is the third year of selection in our breeding beds using mother plants which show the strongest everbearing habit.

AROMA.

LATE. Bi-sexual, and one of the very best pollenizers for late varieties. Read the description carefully and see if it don't suit you. It is an ideal berry, quite large, roundish, very true and even, bright glossy color, with a flavor that always whets the appetite to call for more. It is a good shipper and it always sells at sight.

The foliage has such a bright clean color that it attracts the visitor's attention. The plants stool close to the ground, having the spreading habit, which lets the sunbeams play upon the big crowns, keeping them vigorous so every berry is brought to perfection. There is always a great demand for big late berries at high prices, and right here is where the profits come in. Every commercial grower and family garden should have the earliest and the latest varieties, keeping the trade and table supplied continually. Don't be afraid to set Aroma largely; it succeeds everywhere. It has always been difficult for us to grow enough plants to fill our orders, and so our acreage of this variety has been increased in order to be prepared for the rush next spring. This is the thirteenth year of selection, and it is now good enough for anybody.



BERRY PICKERS' TICKET.

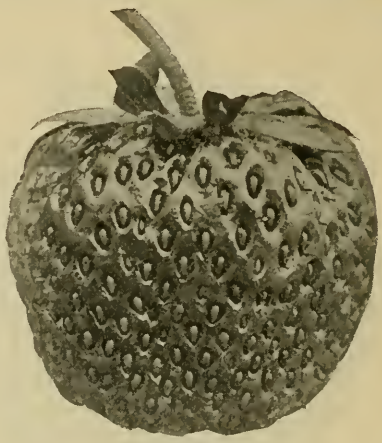
This is the most satisfactory way for both berry picker and grower to keep tally of the number of quarts picked by each one every day. It is almost impossible to make a mistake, as each picker has his ticket suspended by a string to a button or around the neck, and the one in charge of the pickers carries a punch and is the only one allowed to accept berries from them. He gives credit on their ticket by punching out the number of quarts received. They are then taken to the packing house by a man employed for that purpose, who also keeps the pickers supplied with empties, thus avoiding any confusion. Each ticket has 100 quarts and when it is all canceled the foreman gives the picker a new one. These tickets are retained by the pickers until pay day, then they are presented to the grower for payment. If one cent a quart is paid each canceled ticket is worth $1.00, so there is no figuring to do, simply count the tickets each picker presents and the number represents the same number of dollars. These tickets are kept by the growers as a receipt and at the end of each season he can tell in a few minutes just how many quarts each one picked; also how many quarts was picked on his farm and the cost of picking through the entire season. The expense of foreman and other help is kept in a book. Any printer can make these tickets for you, printing your own name on them; the cost is about $2.00 per thousand. The mistakes and time saved by their use will more than pay their cost.

MANAGING BERRY PICKERS.

In managing a force of berry pickers it is just as essential to have a perfect system as it is in managing a lot of employees in a factory or anywhere else. We find that good, careful women make the best pickers; they are much neater about their work than men or boys and are easier handled. Have a thorough understanding with each one, stating just what is expected of her and what she can expect if the rules are not closely followed out. This can be done in a kind way and in the end be help-

BRANDYWINE.

LATE. Bi-sexual, with an unquestioned reputation. It just seems that people can't get enough of these, and our stock of plants are always sold out before the orders are filled; a big increase in acreage this year will make everybody safe if their order is sent in at a reasonable time. The berries are large, deep blood red to the center, a flavor peculiar to itself and one of the best canning berries of all the late varieties. It is wonderfully productive and holds its fruit well up from the ground, seems to succeed everywhere, is very popular and a splendid late sort for the family garden. The plants are extra large with tall foliage, each plant building up a number of crowns. This makes the twelfth year it has been selected in our breeding bed. Every plant is strong and well developed for heavy work.



BISMARK.

LATE. Bi-sexual. This variety is a strong one in both vegetative growth and fruiting, and is an exceptionally strong pollenizer. The berries are a light yellowish red, entirely different in color from any other variety. The shape is almost round, flattening some at the end; it is exceedingly productive in good soil of large size berries.

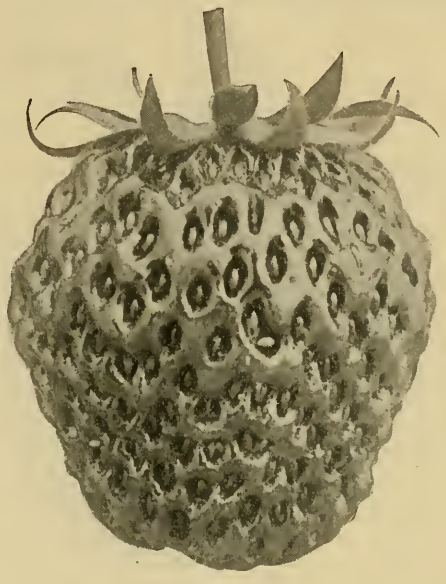
The foliage can hardly be distinguished from that of Bubach, and it is a perfect mate for that variety, both blooming at the same time.

This is the eleventh year our plants have been bred from ideal fruiters, so you can rely on the stock.

ful to employer and employee. Their names should be recorded and each one given a number so that errors or bad work can be easily traced to the one who did it. A good foreman should be in the field at all times. Twenty-five pickers are enough for one foreman to look after; he should carry a punch and each picker should have a ticket to keep talley of all the berries picked during the day, which is done by the foreman punching out the number of quarts he received from each picker. The growers should have it understood that all employees must arrive on the farm by a certain hour so the entire force can be started to work at the same time. No picking should be done while dew is on or when they are wet from rain, unless they are sold and going to be used at once; berries will hold up better and look much brighter if picked dry, and this must be done if they are to be shipped. The foreman should examine the berries carefully before accepting them and if found picked and graded according to orders, the amount should be punched in the ticket and the picker's number put on the boxes before sending to the packing house. One good man should be employed to carry the berries to the packers for every 25 pickers. This gives the foreman all his time to devote to the pickers, going from one to another continually, keeping close watch and seeing that no berries are picked without stems or any left on the vines that are ripe enough to pick; also that each one is properly grading her berries, which is done by putting all small and poorly shaped berries in a separate box from the fancies. Grading in the field saves re-handling at the packing house; all the packers have to do is to tip each box enough to see that the berries in the bottom are the same as on the top, then they are nicely and neatly faced by turning the stems down; this makes them show up in the box like so much gold, and adds wonderfully to their attractiveness. If the inspector at the packing house finds anything wrong with the berries, the picker's number is found on the boxes, which makes easy and quick work tracing it to the right party and orders are sent out to the field foreman to see that this picker does better work. By this system of numbering, each picker is placed upon her own responsibility and there is no chance for her to lay the blame of poor work on an innocent party as the numbers tell who is doing good or bad work; this creates an interest and each one tries to get through the day without having any poor work marked against her. The foreman should be a gentleman, courteous, but firm, having full control of every employee under his supervision. No profanity or loud talking should be tolerated and visitors should not be allowed in the field to detract the pickers' attention, as this makes confusion. Everybody should quit work for dinner at the same time and a good long rest should be given them at noon with a certain hour designated to begin work after dinner. Strawberries should be packed immediately after they are picked, care being taken to have them same all through, not allowing any larger berries on top than are in the bottom; as soon as they are packed place carefully in the crate and if to be shipped, a good grade of wax paper should be placed over the entire top of crate before the lid is nailed on; this excludes air and light from striking the berries and they will hold up better and retain a bright color much longer. We have thoroughly tested the

GANDY.

LATE. Bi-sexual. There are not many growers who haven't tried Gandy, as it is one of the oldest now in cultivation, and when grown on thoroughbred plants, that are free from all taint of exhaustion, it is productive and very profitable. The price is always high for such big berries of bright color and rich flavor. This is another of Beatty's pets at Covington, where it is grown on thoroughbred plants, under an entirely different method of culture from all others with results that has created new life and enthusiasm in growing this grand berry. Twenty years of selection.



DORNAN.

LATE. Bi-sexual, and a winner sure enough. Just look at the picture and imagine them piled on top of each other in the row, with a most beautiful foliage for a back ground! And think of the richest and sweetest fruit you ever tasted. Now you can better understand the discription of this grand berry as we give it. They are great big, deep scarlet fellows, shining in the box like diamonds, so good and sweet that a boy can eat until his skin is bursting tight and never get the stomach ache. The berries are extra large and vary just enough in shape to make them show attractively in the box. Let the customer taste before you name the price and they won't kick if you are a few cents higher on the quart than other growers; and don't forget that it is a good shipper and has a long season of ripening. The foliage is large with a good leaf, the roots run down deep, bringing up plenty of moisture to keep everything moving. This is the 6th year of selection from ideal ancestors. The report from the Covington farm corresponds with this and everything is in its favor.

wax paper and it is a wonderfully big help in getting the berries to a distant market in a fresh and bright condition; it adds so much to the general appearance, showing the grower is up-to-date. The cost is less than one-third of a cent for each crate. Any wholesale paper company can furnish and cut it to fit any size crate. Berries attractively displayed are half sold.

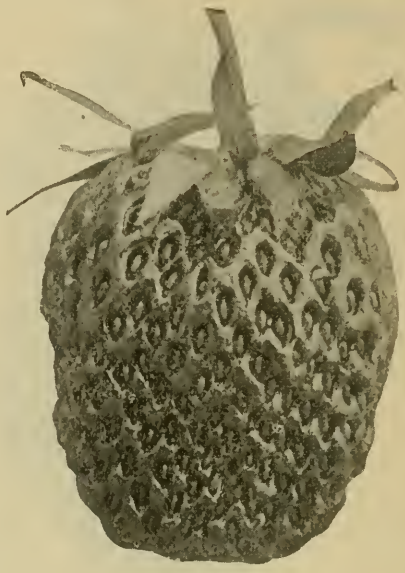
THE IMPORTANCE OF A LABEL.

The principal reason for having an attractive label is to insure purchasers that they are getting what they pay for. No manufacturer would think of putting his goods on the market without a label or trademark to designate them from those of other makers in the same line. If the housewife wants a high grade baking powder she calls for some certain brand, like Royal or Dr. Price's. The manufacturer adopted these names and had them trademarked, placing one on each can so their goods may be distinguished from other makes, cautioning the consumers to beware of imitations; for either of these firms to discontinue using their label, sending the goods out in a plain can, would mean ruination to their business. Every plow, wagon or machine of any kind bears the manufacturer's name or trademark. The only way in which any large business can be permanently built up is by adopting a name for the products sent out, continually keeping this name before the people and protecting it by retaining the quality to a high standard of excellence. Any article sells better and brings a higher price when it is guaranteed to be of high quality, so long as this guarantee is backed by an honorable and responsible party. There are many reasons why all progressive strawberry growers should have labels as well as the manufacturers. They should educate the people to call for their brand, and the berries should be honestly packed and so well arranged that the first trial will convince purchasers of their merits, and they will call for this brand and won't be satisfied with any others. One great mistake that many growers are making is in filling the boxes with small berries and topping them off with large ones. This is cheating themselves more than anyone else. Such men as this do not dare to use a label, as it is to their interest to keep the purchasers ignorant of the grower. But, as the trite saying is, "murder will out," and no man can adopt a quicker or more effectual way to kill his business. If we wish to continue our triteness we would say, with the great Lincoln: "You can fool all the people part of the time, and part of the people all the time, but you can't fool all the people all the time." Just imagine yourself buying a box of berries with large, fancy ones on top, and when pouring them out in a dish find the majority small and second grade fruit.

MARSHALL.

LATE. Bi-sexual. Loved by everybody on account of its enormous size, blood red color and rich aromatic flavor, peculiar to itself This is another of the good old stand-bys with which we have never been able to fill the demands for its plants It is a winner at all exhibitions and has taken more first premiums at the Boston shows than any other variety. It is strictly a fancy berry, and will take care of itself on the market; it does not produce as many berries in number as some others, but the immense size makes up in filling the quarts. The fancy grocers are always delighted to get them on account of the fruit being such a rich dark red, with a gloss that is bound to attract the passers by. It is scarcely ever mis-shapen.

The plant is very large with an extra broad thick leaf, has a good appetite, and will do heavier work if given plenty of rich food. It is now being taken through its eleventh year of selection.



MAXIMUS.

LATE. Bi-sexual. A vigorous grower, making a grand foliage, which is light green and glossy. The berries are a bright red, rich and attractive. This is another fancy berry for fancy trade, and always brings a fancy price; a splendid berry for the family garden as well as for market. We can see no difference between this grand variety and the Corsican. Just look at the picture and see in your mind's eye its dark red color and the rich flavor added to it, then decide whether it will suit you. Tenth year of selection and restriction in our breeding bed adds to its value.

It's quite likely that the telephone would be kept busy between your house and the fellow's who sold you the berries, and we wouldn't like to quote the language the wire would carry back and forth, as it is quite probable there would be a little sulphur in the air. The safest and most profitable road for the berry grower to take is the GOLDEN RULE ROUTE.

Roland Morril, America's noted peach grower, is one of the most successful horticulturists of the country; every package of fruit that leaves his famous farms in Michigan and in Texas bears his label, and his undisputed reputation has made his fruits so popular in Chicago and other great markets that they now sell on their merits. Dealers consider it an honor to have the privilege of selling his brands; all that is necessary is to show the label to purchasers and Morril's name does the rest. Every merchant delights to handle berries or fruits of any kind if he can feel safe in guaranteeing the quality to his customers. The cost of a label is only a trifle and it gives you many advantages over those who have none. Do not harvest another crop without it; your trade will increase enough the first season to more than doubly pay the cost.

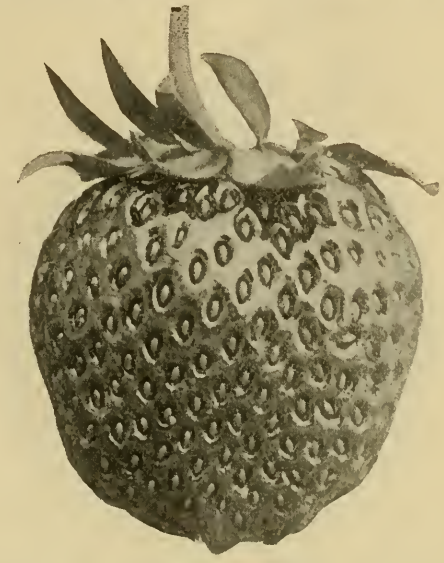
MARKETING STRAWBERRIES.

One-half of the business is in knowing how to grow big crops of fancy berries, the other half is in knowing how to put them on the market at a profit. One thing sure, no one is going to pay more than you ask and no one can conscientiously ask more than an article is worth. So in order to get a big price you must grow big fancy berries, pack and arrange them so attractively that they will catch the eye of the hungry purchasers and the price then cuts no figure. Always take pride in keeping your berries at such a high standard of excellence that it will never be necessary to sell in competition with other growers. Have an attractive label that will guarantee the quality, pack them honestly, having the berries the same all through and using full measure.

People will soon learn your honest methods and call for berries bearing your label. After your reputation is established your berries will sell on their merits and will become famous wherever they are sold. There are a number of ways in which berries can be marketed at a big profit and each grower should adopt the methods best suited to his own particular location. One of the most successful ways is to make arrangements with the most reliable, up-to-date groceryman in each town, giving him the exclusive sale on your berries and having it understood that you are to grade them and that they will be put up in fancy

PARKER EARLE.

LATE. Bi-sexual. Possesses a wonderful fruiting power, being recognized by the leading fruit growers as one of the most productive varieties under cultivation, and when the plants are free from exhaustion they stool up to a mammoth size, producing berries that will command the very highest price in any market. Be sure that your plants come from the bed that is kept under close restrictions, which will insure them strong in potency of pollen Our vigorous thoroughbred plants are so perfectly balanced and thoroughly built up in their fruit producing organism that we have counted as high as 390 berries on one plant, and the greater part of them fancy; they are bright red, rather long, somewhat pointed, very rich flavor, and good shippers. The foliage is a bright green, growing tall. This is a safe variety to set on low land; late blooming with such large foliage protects it from frosts. This is the 16th year we have had it under restriction, making our selection from ideal ancestors.



ROUGH RIDER.

LATE. Bi-sexual. This is a favorite variety in all localities where it succeeds. The berries are a bright glossy red, firm and pretty in form, extra good quality, and a good shipper, and the smoothness of the berry adds materially to their beauty. Where it has not been tested we suggest a trial, and when found to succeed, there is no more profitable variety grown.

The foliage is a dark glistening green, making as fine appearance in the field as the berries do in the box.

We have selected it six years and it is gaining every year.

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style. A progressive and up-to-date grower will never allow the purchaser to name the price; the producer of any article is the only one who can intelligently fix this; and so long as the berries are fancy and carefully selected the groceryman will be perfectly willing to sell at the grower's price in order to get the sale of them, which makes a big drawing card for him, besides a profit. All grocers admit that there isn't anything that draws trade like fancy fruit. The grower should always see that his berries have the most prominent place in front of the store; he should take great pride in making a fine display, placing the crates one a little higher than the other, sloping them enough to expose the big, bright fellows in full view. Never bother the groceryman while he is waiting upon a customer, and when he sees that you are taking so much interest in his business he will become more interested in yours, advertising your berries and pushing them ahead of all others; his clerks will also learn to admire your business qualities and they will become enthusiastic, showing and talking your berries to every customer. It doesn't make any difference how many small berries there are on the market; fancy berries that are guaranteed to be honestly packed should never retail for less than thirteen cents per quart, or two quarts for twenty-five cents; the groceryman should have 15 per cent for selling them. Of course the price should be much higher than this when they are scarce. A wonderful lot of berries can be sold at retail direct from the field or packing house by advertising in the local papers. A small ad. in a few of the best papers will bring customers from a long distance. A great many people prefer to buy direct from the grower and you will be surprised how buyers will drive in from different towns as well as from the country and take berries home by the crate for canning, etc. This is an especially valuable way to dispose of your second grade berries, as it doesn't pay to ship them. Any grower is bound to have a few of this kind that have been graded out from the fancy stock.

Treat everybody who visits your farm courteously, keep yourself neatly dressed, give all visitors a hearty handshake and show them they are welcome. Never allow a visitor or customer to leave your farm without eating some of the choicest berries; it is a good way to advertise; they will tell others of your fine berries, also the pleasant and friendly way they were received. Never ask a visitor to buy; it shows poor business qualities to make anyone feel under obligations to buy. Simply show them around and they will become so impressed with you and your berries that a very small per cent of them will leave without making a purchase. Another good and profitable way is to have a neat wagon pulled by a

BUBACH.

LATE. Pistillate. A market commander, reputation winner and money getter. There is scarcely a strawberry grower in the country that hasn't fruited Bubach, and no one should be without them. They are very prolific of such big meaty fellows, bright red color, with a rich, tempting look that almost overpowers the customer and the price is never argued. The plants are large, with dark green foliage with a waxy appearance. There is a pleasure and profit in growing big showy berries, for it makes it so easy to get new customers, and still easier to hold all the old ones. People always look upon such growers with admiration, and tell others about your big berries until your name is a household word in the community. Eighteenth year of selection and restriction.

SEAFORD.

LATE. Pistillate, that is gaining in reputation every year. The berries are a very dark red, corrugated just enough to show up attractively, and the flavor is unsurpassed. It is very prolific and the berries are a good size. The picture was made from a photograph, and shows it to perfection except the dark red color.

The foliage is large, dark green with broad leaves and upright in growth. It has a long season of ripening and the berries hold out in quality to the last picking. This is the ninth year of selection, which makes it good enough to recommend to our friends.

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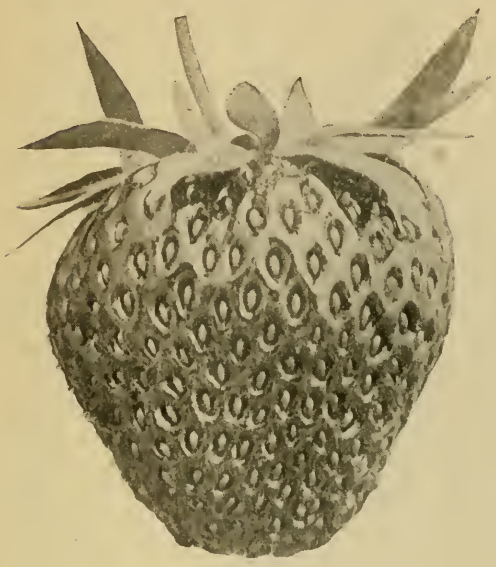
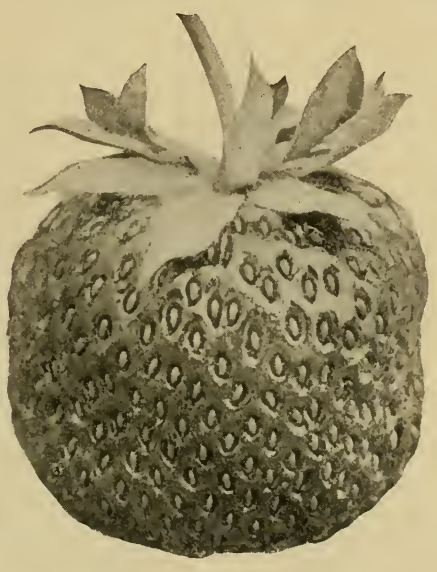
sleek and well curried horse, dressed in neat, clean harness and driven by a neatly dressed and courteous gentleman. Fill the wagon with two grades of berries, fancy and medium; call at each house and sell at retail by the quart or any amount the customers want. While delivering today take orders for tomorrow; a big retail business will soon be built up in this manner. Your neatness will attract attention and your name become a household word. The children will watch for the berry man and you will hear them call to mamma, "Hurry up, here comes the man with the big strawberries." Fine hotels are also a good place to sell fancy berries; they will always pay an extra high price to get something above the ordinary to tickle the palates of their guests, and it makes a good advertisement for the hotel. Wealthy people who live at expensive hotels and cafes do not ask the price; what they are after is the best the market affords, and this will make your berries popular with a wealthy class of people. There is a world of pleasure in growing fancy berries, and selling under these methods makes large profits, which adds still more to the pleasure. Most people like to trade with those who are successful, and the more successful a man is the better they like to buy of him.

Lag-behinds and drones cannot expect to make a success at anything; they must be content with whatever the up-to-date hustler leaves behind, and they have to accept just whatever people offer for their products. They drive up in front of a grocery and yell to the proprietor, "Do you want any berries?" and when the merchant comes out, asks, "What will you give for them?" A small, trifling sum is offered and accepted and the groceryman takes the poor berries out and sets them inside the store while the lazy grower sits in his wagon. What chance has a man like this where there are up-to-date growers? Why, bless your soul, my progressive friend, you have everything your own way. There is the best opening in fancy strawberry growing of any business we know of; it requires but little capital and there is scarcely any competition. There never has been and probably never will be enough fancy berries to supply the demand. No one ever heard of a man getting rich working for other people. Do not be a wage earner all your life; lease a piece of land for a term of years, with the privilege of buying it, and pitch in with a determination to be a leader on the market; do not be satisfied with anything but the best. It is better to start right with little money and a lot of enthusiasm than it is to start wrong with a lot of money and no enthusiasm. Make your word good wherever you deal and the banks will soon learn that you mean business and will stand by you. Your reputation will spread like the wind. In a few years the piece of leased land will be your own, worth double what it was when leased. Then you will be on Easy street.



SAMPLE.

LATE. Pistillate. Well it has an appropriate name all right, for every berry is fit for an ideal sample; the great, big, rich, red, top shaped beauties are so inviting that they are generally bought without asking the price. Anyone that could still feel stingy after seeing a box of these berries is past redemption, and if the size and color fail to tempt the customer just slip one into his mouth; a sale is made and a steady customer through the season. It is a grand treat to see them throwing up their beautiful green foliage with such long leaf stems; they seem to be reaching up to catch the sun's rays, spreading just a little to let the sun kiss the berries' cheeks to make them blush. The season of ripening is long and the donation of berries is large every day for several weeks. The test in our trial bed at Covington, Indiana, on different soil and under different climatic conditions, gives it as many good points there as here; it succeeds equally well everywhere we have had reports from. Its record of breeding is nine years, and the improvement by selection gives it several points better than last year.



OREGON IRON CLAD.

VERY LATE. Bi-sexual. Originated in Oregon and exclusively grown in many localities there, and it is creating quite a sensation wherever introduced. The berries are large, dark red, of high quality, shows up rich when placed nicely in the box It is quite productive and is almost sure to be one of the standard varieties. Late blooming and large foliage makes it almost free from danger of frost. The scramble for these plants last year made it impossible for us to fill all of our orders for it. We have more than doubled our acreage for this year. This makes the third year of selection, making rapid gains in all points. You can safely give this variety a liberal trial; it is sure to please.

NEVER A GLUT OF FANCY STRAWBERRIES.

The up-to-date growers of fancy strawberries have better chances for making money now than they ever had before; the entire country is prosperous, with labor everywhere employed at good wages, and nearly everybody is making money. Strawberries are no longer considered a luxury, but rather a part of the necessary daily food, and the demand for a fancy grade of fruit is much greater than the supply, and the fellow who goes into the business with a determination to grow the best is the fellow who is going to make money. Only a few years ago a groceryman would only sell one crate of berries a day; now that same dealer sells from eight to ten crates each day and double this amount on Saturday. There is no reason that we can see why the market will ever be glutted with fancy berries. While visiting different markets this year we found a good supply of small berries selling at a small price, while the fancy stock was going fast at more than double the price of the small ones, and the growers of these fancies could not fill half their orders. We get many letters from growers who are following our methods reporting that they cannot supply half the demand for their fancy fruit; the more they increase their acreage, the more their customers' appetites increase, and it just seems impossible to satisfy their longings for this best of all berries. There are so many valuable receipts now for preserving and canning berries that almost every housewife fills her cupboard with them, put up in all styles for winter use. People are no longer satisfied with them merely throug the fruiting season, but must have them the year round. No grower need fear the market so long as he continues to grow fancy berries and to pack them honestly; it's the fellow who insists on setting weak, devitalized plants and grows inferior fruit who has to hunt for customers, selling at whatever price people see fit to offer him. It is certainly interesting to stand in front of an up-to-date grocery, where there is a crate of fancy, select berries setting beside a crate of small, inferior ones, and watch the people stop and gaze at them, invariably purchasing the best, and although the fancies are more than double the price of the others they disappear like snow in the hot sun. The eye has a wonderful influence on the stomach and the stomach seems to have full control of the pocketbook.

MIDNIGHT.

LATE. Bi-sexual. Extra late, extra big and extra good. This is the third year we have been breeding up this variety, and in making our selections we notice great gains in all points. It gets right down to business in developing up crowns, and it can't be outdone in this respect by many varieties. The foliage is a handsome, dark glossy green, and it develops up an unusual fruiting power; the berries are thickly scattered all through the foliage, presenting a beautiful picture. They are large, conical, bright scarlet on top shading to a little lighter on the under side. No one ever ate a richer or sweeter berry; if you ever taste a midnight and your appetite don't call for more you had better see a doctor at once for something is wrong. Third year of selection.

BIG LATE. (BI-SEXUAL.)

Last year we said this in our booklet:

"Later than anything, but no plants obtainable this year at any price. No, not for dollars each. I have never introduced a variety because I could not find one or produce a seedling that I felt absolutely sure was a thing, far better than anything now under cultivation. I have been content to develop and bring out the higher qualities of old standard sorts, but now I straighten up and with the fullest confidence that it is superior in bigness, richness, lateness, prettyness, moneygettingness, family happiness and all other 'nesses' that mean betterness, so next year I shall launch it. Don't ask for it now for your gold will not get it, but I just want to show the photograph so you can whet your appetite for it next season."

MARK HANNA.

MEDIUM TO QUITE LATE. Pistillate. It is hard to tell just where to place this superb variety in our list, as it so much resembles the great politician after whom it was named (the late Mark Hanna). He was loaded with politics through the entire campaigning season, while our Mark Hanna is loaded with berries all through the strawberry campaign, and it wins customers fast. Also his equal as a money maker, but not quite his size, though plenty big enough to capture the very highest prices going. As a producer it certainly wins the prize; its big red berries are in clusters like cherries, and the rich, dark red color don't come off after being shipped, as it still retains its brilliancy and this is certainly a valuable point in any berry.

The plants are of the large, vigorous type and show business right from the start. It opens a large well developed bloom, and loads of them, and every one will make a beautiful berry if properly pollenized. This is the second year of selection in our breeding bed and it shows many excellent points which leads us to feel sure it will succeed where any other berry does.

The above was our unprejudiced opinion last year but this was such an unfavorable season to determine the true value of a new strawberry, that we are compelled to ask for one more year's testing before offering it for sale; at the end of this time. if we are not absolutely certain that it is far better than any other variety of its season, we will never offer it at any price, because we realize the fact that our many. friends all over the country, will trust to our judgment on this new berry as they always have heretofore on the standard sorts, and we refuse to allow our customers, with such unlimited confidence in us, to invest one cent in the plants of this variety, until we can vouch for its superiority. Although we have an immense stock of these plants on hand and a large sum of money invested in them, we prefer to loose all this rather than make a mistake. Therefore, we ask everybody to be patient until it fruits one more year, at which time we will again report and if we can safely give you our word and honor that it is good, it will be good.

THESE ARE THE KIND THAT PAYS A BIG PROFIT.

How would you enjoy growing berries so large that eighteen to twenty-four would fill a quart box. Just take a look at these six beauties which were grown on our thoroughbred pedigree plants. These are the kind we are advising you to grow. No running around hunting customers or dickering about the price; everybody begs to get them at your own figures. Study Great Crops of Strawberries; it tells how to grow them.

ROLLAND MORRILL'S

Beautiful country home on his famous peach orchard at Benton Harbor, Mich. Mr. Morrill has made a fortune growing peaches and strawberries and he contributes his success to bud selection. He propogates all his own peach trees, selecting buds from trees of known fruiting vigor and gets a big crop of fancy peaches every year; his strawberry plants come from R. M. Kellogg's breeding farms, and are selected from mother plants of known fruiting vigor. Mr. Morrill also operates the Morril Orchard Co., of Texas, consisting of 12,000 acres where fruits and vegetables are grown to perfection. Read what he says about thoroughbred strawberry plants.

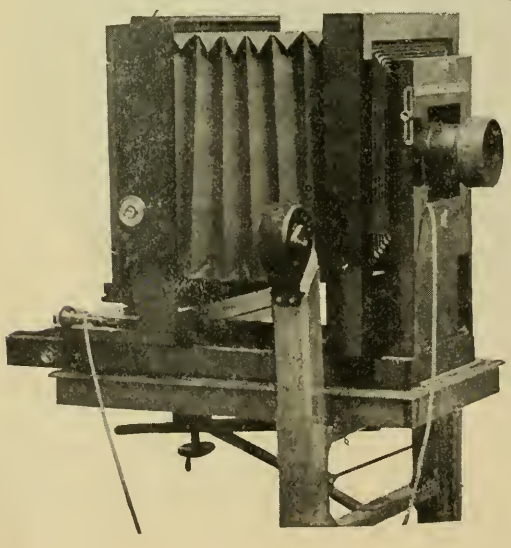
Benton Harbor, Mich., July 26, 1904.

THE R. M. KELLOGG CO., Three Rivers, Mich.:

My Dear Sirs: The 14,000 strawberry plants I ordered for the Morrill Orchard Co., at Morrill, Texas, when visiting your farm last season made the best start and growth I ever saw for plants that had been shipped. They traveled over a thousand miles, and I don't believe we lost one per cent. of them from all causes. This only increases my faith in Thoroughbred Pedigree plants.

Hoping to be able to visit your plant breeding farms again soon, and wishing you success, I am,

Yours very truly, R. MORRILL.



THIS INSTRUMENT, THE CAMERA, HAS CORRECTLY DEPICTED THE BERRIES SHOWN HEREIN.

Our object in showing this camera is to explain to the reader how we get these illustrations so true to nature; they are not imaginary, but actual photographs of berries grown on our thoroughbred pedigree plants, made by Mr. Charles Silliman, photographer of Three Rivers. Likewise all other illustrations are made from photographs of the scenes they represent.

This entire book is written by us and contains only our own methods and not theories; its teachings are practical and common sense; every method suggested is followed out on our farms with results that are too well known to the horticultural world to need any comment. In teaching the berry grower how to grow big crops of fancy berries we recommend nothing but that which must be done in order to attain the results we ourselves have secured. No one can expect to reach the top step of the ladder of fame and fortune without following those who have already climbed it. One thing sure, it cannot be reached by those who stand at the bottom, criticising those who have attained it. We get a great deal of satisfaction from helping others who show a willingness to help themselves, by following intelligent instructions. We love to give every enthusiastic fellow a boost; so just pitch in and you can soon be able to show us berries as fine as these we are showing to you.

F. B. MAGILL'S POULTRY FARM, WITH STRAWBERRY GROWING IN CONNECTION, AT PIQUA, O.

"It is with much pleasure that I write you expressing my entire satisfaction with strawberry growing in connection with poultry raising. As you are aware, I have been breeding the purest strain of White Wyandotts for heavy egg production by selection with wonderful success, as letters of testimony will bear me out; the big results obtained along this line gave me faith in your methods of plant breeding by selection, so my potato patch was plowed up and set to your thoroughbred pedigree plants, and the way those plants grew and built up crowns astonished the old time berry growers of this section. Each year my potatoes are planted in new ground and the patch of the previous year is set to your strawberry plants. I shall not grow any more grain for my Wyandotts, but shall put all my available ground in strawberries and buy grain, as the difference in profit much more than pays for the extra labor. Strawberry growing is a profitable business in connection with poultry, and I shall increase my acreage considerably next spring. One hundred hens furnish enough manure for one acre of berries on fair ground. My boy takes great interest in both chickens and berries and enjoys getting out with them and watching the chickens work among the plants. A bug or insect of any kind has no show on my grounds and the Wyandotts pay me handsomely for the privilege of working among the plants. Very truly yours,

F. B. MAGILL.

CHICKENS AND STRAWBERRIES.

There are no two industries that yield a higher profit on the investment and which may be conducted together to more advantage than growing strawberries and keeping poultry. Any man or woman with good business tact and determined energy, and who will be painstaking and quick to take advantage of business opportunities, can find no more delightful or reliable work. These two industries together will bring a steady income a greater part of the year and there will scarcely be a dull season when it is all outgo and no income.

It is considered best not to have "the eggs all in one basket," but to diversify enough to break up the monotony and at the same time steady, undivided attention is essential to success in this and all undertakings.

Woe to the grasshopper, bug or worm where a flock of chickens have range; and in this particular the flocks are as valuable as the spray pump, for they keep incessantly at work, and about the only time they need to be kept out of the strawberry field is during the fruiting season. Bone meal and meat trimmings are grand fertilizers for the strawberry plant, and the digestive organs of the chicken are admirably adapted to changing these into plant food. The meat markets will furnish the raw material at a small cost, which the chickens will rapidly manufacture into eggs and fertilizer, and we would as soon fertilize our grounds from the chicken coop as from any other source. Compost the droppings with at least four times their bulk of dry, loamy soil, and this is easily done by scattering the soil under the roosts to absorb the moisture and odors. A little close attention

E. C. SEARS' BEAUTIFUL STRAWBERRY FIELD AT LAGRANGE, ILL.

What would you give to be able to send us a photograph of such a beautiful strawberry field as this, earned with your own brain and muscle? Did you ever see a flower park any more attractive? Mr. Sears writes us that he sold 25,000 quarts from 4½ acres in one season, at an average price of 10c per quart, making $2,500. Just add this to the beauty, then decide whether it pays to use thoroughbred plants. Mr. Sears also writes us under date Aug. 4, 1904, that he contributes his success to thoroughbred plants and following the instructions of Great Crops of Strawberries and How to Grow Them; also states that he will visit our breeding beds in October to get better acquainted with us and our methods. He is progressive and up-to-date in every particular, doing everything in the right way, at the right time. He uses a neat label and keeps everybody thinking of Sears Fancy Strawberries, guaranteeing them to be Ripe, Red, Juicy and Sweet, and advertises that he will not pick or sell on Sunday. Is it any wonder that everybody loves Mr. Sears and his berries?

to this work will repay a large per cent., both on fowls and fruit. Keep the compost under cover so that it will remain dry. A hundred and fifty or two hundred bushels of this compost sown broadcast to the acre and thoroughly incorporated into the soil before setting the plants will stimulate the foliage into a strong, vigorous growth, resulting in an abundance of fruit.

Never mix ashes or lime with this compost before putting it into the soil, as they will set the nitrogen free, so it will escape. If land plaster be used under the roosts it will absorb the ammonia and hold it until it is in the soil. The droppings are so strong when not diluted with soil that if any quantity comes into direct contact with the roots it will burn them and thus injure the plants.

GOING IN DEBT FOR A FARM. ..

Just stop and think for a minute how many men in your locality now own good farms, elegantly equipped with fine buildings, stock and tools, and see how many of them you can recall to memory who had the ready money to pay cash for everything when they began. You will find the greater number of these farms were made by the owners going into debt for them, and they today would be working for other people only for their grit in grasping an opportunity. Most of the rich men in this country made their start by going in debt; a great many men are poor simply because they have always been afraid to make a start; they can see chances to make money, but do not accept them. Debt should not scare any man so long as there is value to show for it. A young man should not be willing to spend his entire life in working by the day or month, as this is an exceedingly slow way to get a home; there is so much more pleasure in working for yourself and beautifying your own farm instead of using your brain and muscle to make others rich. It doesn't take much cash to buy a farm, but it does take a lot of grit. The poultrymen feed grit to their hens to make them lay eggs, and we find that it is good to make the young man lay and execute plans. We talk from experience.

E. D. DONALDSON'S MODEL BERRY FIELD AT COVINGTON, IND.

Mr. Donaldson's berry farm joins the famous Frank E. Beatty farm, and he has become so thoroughly inoculated with the methods given in Great Crops of Strawberries and How to Grow Them, and followed its methods so closely that he is second fiddler to no berry grower in Fountain County. He attributes his success to using thoroughly developed plants and doing his work right

Mr. Donaldson was a cooper, working at his trade until sixty years of age. He became tired of shop work and being determined to have a home of his own, a bargain was made for this farm of seven acres, going in debt for the greater part of it. He pitched into business; the big berries soon paid off the mortgage, besides furnishing ample means for many needed improvements, also a snug bank account to draw from at any time; he is now seventy-four years old and his good wife seventy-six; he is as enthusiastic over the berry business as many a young man.

THE WIFE'S PIN MONEY.

No matter how well the husband provides for the wife, she enjoys money better that comes from some source of her own; life seems more independent when she can go to a well filled pocketbook that has been earned by her own planning. A big majority of women on the farm get their pin money from milk and butter, which is a very good way; however, there are many hardships connected with it. We can recall a number of farmers' wives who milk from six to eight cows twice each day, tramping through snow and mud in the winter, besides being tormented with flies in summer; and some of the husbands allow their wives the honor of cleaning the stable as well. Then comes all the crocks to wash, which takes till bedtime; getting up at four o'clock in the morning, churning before breakfast, then taking the butter to market through the dust and sweltering sun. No matter how nicely it is moulded out and arranged on the dish, it will sometimes be soft and look mussy on arrival, making it hard to get a satisfactory price. A few years of such hardship will make an opening for a step-mother. We are glad that a great many of these good wives and mothers have found an easier and more pleasant way to earn their own money. A patch of Thoroughbred strawberry plants covering as much ground as the barn lot, which formerly held the six cows makes them more clear

GEO. S. POMEROY'S BERRY FIELD.

Here is another beautiful strawberry farm showing the result of thoroughbred pedigree plants. Mr. Pomeroy has used Thoroughbred plants for years and contributes his success to their use and following the instructions laid down in "Great Crops of Strawberries and How to Grow Them." Strawberries are grown in connection with thoroughbred poultry. This model farm is located at Jonesville, Mich. Mr. Pomeroy is like every other grower that follows these methods, first fiddler in his county.

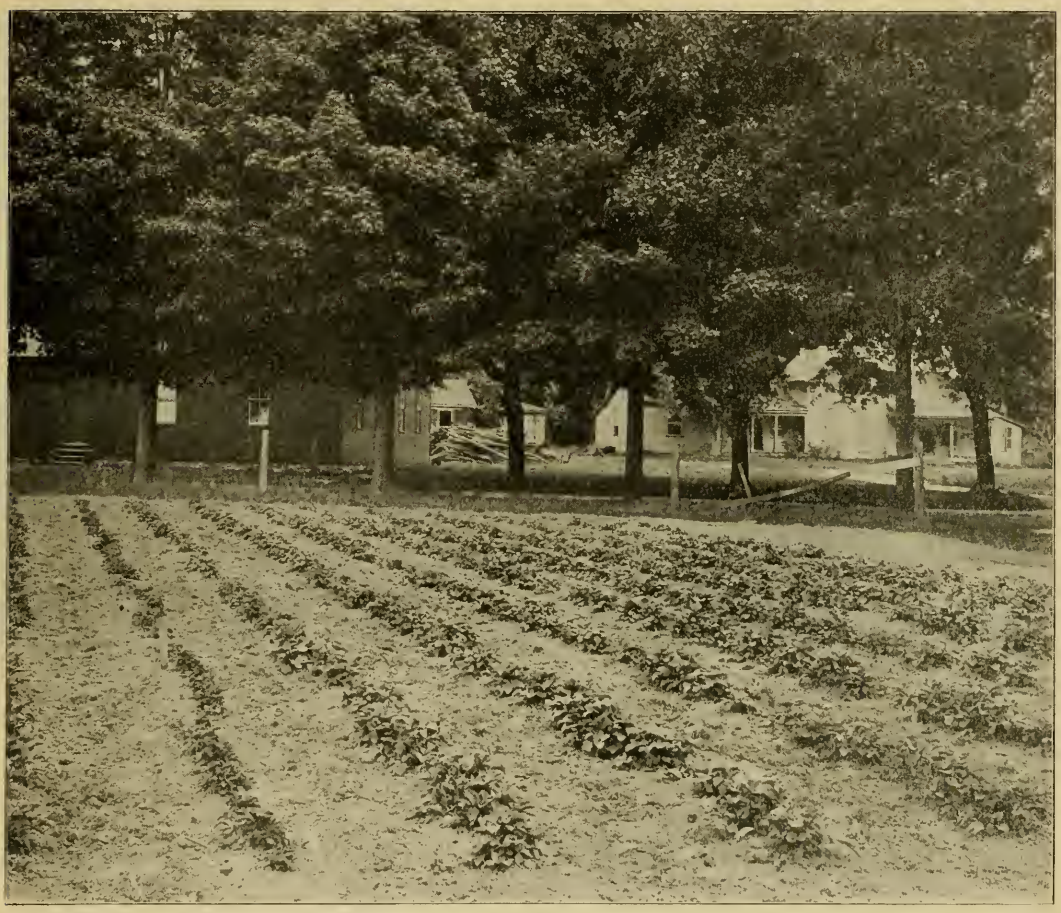
NARROWING ROWS DOWN FOR SECOND CROP.

This berry patch has just been burnt over, and the rows narrowed down with a common breaking plow, which is done by throwing a furrow from each side of the row into the center. This leaves a ridge of soil between the rows, which is leveled down with harrow or cultivator. You cannot see any plants, but the roots and crowns are there just the same, full of vigor and ready for business. See picture on opposite page, showing this same patch six weeks later; each hill shows six to eight big crowns, besides making four, big, strong runner plants. Only thoroughbred plants can make such a showing, in so short a time.

money with one-half the work, and is all done during the pleasant time of the year, never becoming necessary to work in the rain or on Sunday; instead, they spend this day in church work and eating the big juicy berries. No winter work, freezing fingers, or dirty cow tails slashing your eyes out, making it hard to keep the second commandment. You can belong to the church the year round and make more money with less work.

PREPARING FOR SECOND CROP.

In preparing the fruiting bed for second crop, just as soon as the berries are all harvested, we mow off the foliage close to the ground, letting it lay for about thirty-six hours, or long enough to become quite dry. Selecting a day when there is a brisk wind, we go to the side of the field from which the wind is coming, take a fork full of straw and lighting it with a match we walk along the end of the field, carrying the fork full of burning straw close to the ground so the dry foliage and mulching will catch fire; by the time we get across the end the blaze will be sweeping across the grounds; the wind forces it along quickly, licking up everything clean as it goes, and the extreme heat raises with the wind, protecting the crowns from injury. This leaves the entire field covered with ashes, which assist in furnishing potash for the coming crop. The burning also destroys all insects, fungus growth and many weed seeds. Immediately after the burning a bar shear or common breaking plow is used to throw a furrow from each side of the row into the center, cutting the row down to about five or six inches wide; following this is the common harrow going same direction as the plow, crossing it the next time. This draws fine soil over the crowns, which is to assist them in starting the new root system; these roots are formed just above the old ones at the base of crown and gives the plants a vigorous start into a new life and in a few days the new foliage is above the soil, breathing the pure air and pumping moisture for the machinery below. Soon we have rich, green rows across the field, and right now is the time to go over them with hoes, cutting out all weeds and any weak plants, leaving the best hills about sixteen inches apart; runners will soon start and each hill is allowed to make four, layering them to make the row as desired, and thus we get a majority of young plants. After this



SIX WEEK'S GROWTH.

This engraving was made from a photograph which was taken just six weeks after the patch was burnt over, showing what a vigorous growth well developed plants make when properly handled. The picture on the opposite page shows how this patch looked six weeks before; nothing to be seen then but fresh dirt, which covered crowns about one-half inch; runner plants are layered along the row to form the hedge system, and with proper cultivation both young and old plants build up a heavy crown system. After the second crop they are turned under and the ground manured and refitted. Set nothing but well developed plants and do everything in the right way at the right time.

all other runners are cut off and cultivation and hoeing continued the same as on new beds. No field should ever be allowed to fruit more than two crops; longer than this is done at a loss. A new field should be set each spring with plants strong in their fruiting power and that have never been weakened by pollen exhaustion.

FALL SETTING OF PLANTS.

The time to set plants is in the spring. We will not furnish plants for summer or fall setting under any circumstances nor for any price. We do not want to send these thoroughbred plants to any one to be grown under unfavorable conditions. We insist that they shall be set at the proper time, and that is early in the spring, on ground properly fitted and given suitable tillage, and wherever this is done they create a sensation with every one who sees the fruit and this is the basis of our success in plant breeding and explains why the number of orders double every year.

If we knew you were a lazy, shiftless fellow and would not take pride in having something nice and be above the ordinary and would put the plants in poor ground and give poor tillage, your order would be a damage to us and we would not accept it.

Plants have no time to grow and develop their fruit organs and supporting vegetative parts when set in the hot, dry months of August and September, and besides all this we could not then furnish them at a price we would advise you to pay. Let them have a whole summer and pick the blossoms the first spring, so as to preserve the vigor at a time when they have not secured a rootage to support this exhaustive process; follow the cultural methods prescribed and you will find fun, money and pleasure in the business.

Waterford, N. Y., July 31, 1904.

R M. KELLOGG CO.,

Dear Sirs: As my fruiting season is over, I thought I would write and let you know of my success. Last year I sent a $1.00 order for plants, receiving 101 plants, and on account of the severe drought of 1903, not raining for 44 days, seven plants died, leaving 94, which I did not allow to make any runners, and by this method the plants made a wonderful growth, forming from six to seven crowns. When fall came, I covered the plants with straw. I picked 90 quarts of berries, pronounced by everyone the finest berries they ever saw, holding their good size until the last berries were picked. I would have had a better report for you if it had not been for the rain, which came just as the berries were at their best, and lasted for several days, causing a large quantity of berries to rot, and then there were some stolen. I am very much pleased with my success, which was all due to the teaching of your book, which I have received for three seasons and prize very highly.

Thanking you for the favors of the past and wishing you success in the future, I remain, Yours,

GEO. E. LEE.

How to Heel in Plants.

CARE OF PLANTS.

A postal card will be mailed to you when the plants are shipped, so you should be on the lookout for them. Our system of packing is the most perfect that can be devised, and plants the last season were shipped to the most distant points without the loss of a plant, and if you give them the same care that we do here every one of them will grow.

When you receive the package, if you are not ready to set them out, do not leave them in the package, but heel them in by digging a small trench in some shady place, and putting in plants as seen in engraving.

HEELING IN PLANTS.

Before opening the package give them a thorough wetting before exposing the roots in putting them in the trench. Do not wet them until you are ready to take them out. Put the whole package into the water for a few minutes or pour water on it slowly until you know that every root is soaked, and then heel them in at once. Put a few plants in the trench and spread them out and put the soil on thinly, and press it in among the roots, then another layer of plants.

Keep the labels on the plants and exercise extreme care not to mix the varieties. Every bunch has a label on it, and these should be stuck in the ground so there can be no mistake. The plants can be kept in the trenches for a long time, if the weather is not suitable for setting them. Do not wet them too much so as to bake the soil on top. The ground must be only moist. If early in spring, and indications are for a heavy frost, spread an old blanket or put some straw over them.

While a strawberry will endure shipment from ocean to ocean and even foreign ports, when skillfully packed in spaghnum moss, yet

FANCY GROCERY OF A. S. NELSON & SONS.

This beautiful store is located at the corner of Neill and Church Streets, Champaign, Illinois, where Beatty's Celebrated Strawberries have been sold for ten years. One of the leading features of this great store is the fancy fruit which is always found in large quantities, and Beatty's berries always occupy a front seat, selling at 13c to 18c per quart, when Champaign is full of other berries that are selling from five to ten cents Nelson & Sons' customers have learned that the quality of these famous berries can be depended upon, and will have no others. "By his fruits shall they know him.' Fourteen courteous clerks and five delivery wagons are kept continually on the hustle serving the flood of customers which are made up of the most prominent citizens of Champaign and surrounding country

a few minutes' exposure to a bright sun and wind will make the roots as dry as hay, and they will surely perish. We shall use the utmost care in delivering the plants to you, and then their success will depend on your care.

You will find a world of pleasure in the business, if you have studied this book carefully, and by following its teachings you will build up a business you will truly enjoy and make a good fortune besides.

DIGGING THE PLANTS.

It requires 125 men to dig these plants and 25 sub-foremen with a head foreman and superintendent over the entire lot. Everything goes like clockwork, a certain place for every man and every man in his place. The men go to the field with the field foreman, who places them in gangs of five, with an experienced foreman in charge of each gang. Each foreman is given orders to dig a certain number of a required variety. Two men go ahead and rake off the mulch and pull off all the old runners and foliage, cleaning them ready for setting before they are dug; following these are two men with six-tine forks. These are run under the plants, lifting them straight out of the ground and shaking the dirt off so as not to injure or break the roots or bruise the crown. The foreman follows close up to the diggers and puts the plants into a wet bag before any sun or wind strikes them. The entire row is dug, throwing the mother plants and poorly rooted ones out. After each bag is filled a tag bearing name of variety is tied to it with the foreman's name that dug them. They are immediately hauled to the packing house, where they are counted and packed ready for shipping. An aggregate is made of all orders to be shipped each day and enough of all varieties dug to fill these orders. By this system all plants are shipped in perfectly fresh condition.

STRAWBERRY EXPERIMENT STATION

Our trial bed forms a regular encyclopedia of information and is the largest of the kind in the country. Here is where experimenting is carried out on all varieties to determine the best way to handle them for ideal results, studying the character of soil and methods of cultivation; also how to grow each particular variety to obtain the best berries and largest

INTERIOR OF PACKING HOUSE.

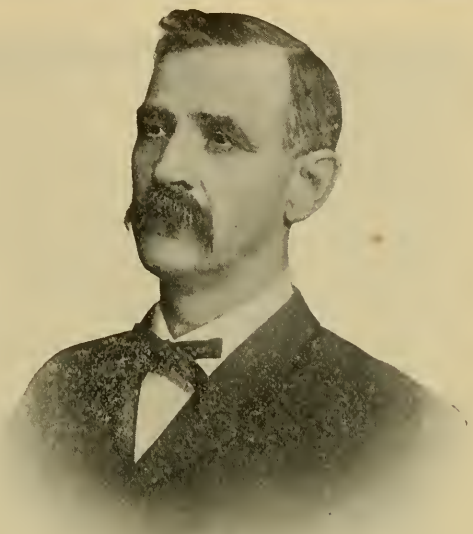
A model packing house with a model system. The plants are brought in through large doors at the rear; each bag of plants has a tag with the name of variety printed on it in large letters, also the signature of foreman that dug them and the teamster's name that hauled them in from the field; each variety is placed in its own stall or bin and counted by a careful, painstaking woman and tied in bunches of twenty-five plants each with a label bearing the name of variety and also counter's number in each bunch. Each department is under the supervision of a responsible, experienced foreman with ourselves making close inspection of each department at frequent intervals. Not even a whisper allowed, everybody attending strictly to business. Over one hundred people employed in this building with as much order and quietness as in a well ordered school room;the building is kept cool and damp all the time by frequent sprinklings and shading the windows, the plants are freshly packed in damp live sphagnum moss and are shipped all over the United States and to foreign countries. Two express companies have offices located in the building and every order is billed ready for shipping before it leaves the packing house. It requires four express clerks to handle the express business, two expert men to tie up plants that go by mail, and one man to bill out freight orders.

READY FOR BUSINESS.

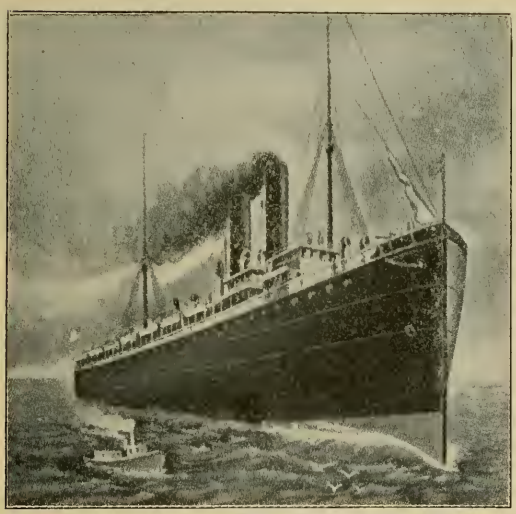
This picture shows part of our men getting ready to dig plants; the mulching has been removed and the next thing is to clean off all the old runners and leaves; nothing shipped from this farm but roots and crowns. No customer asked to pay express charges on useless material; plants are all cleaned ready for setting and every one will grow vigorously if properly set out.

yield, whether hills, narrow or double hedge, or narrow matted rows. The proper mating is determined here; also effects of different fertilizers and spray materials.

F. E. BEATTY, General Manager



L. M. KELLOGG, Secretary and Treasurer



OUR PLANTS GO SAFELY TO FOREIGN COUNTRIES.

(See letter below.)

Port Networitz, Bohemia, Europe, May 3, 1904.
THE R. M. KELLOGG CO., Three Rivers, Mich.:

Dear Gentlemen: This year I got the plants the 26th of April, in the best possible condition. The moss was white, but some roots showed new rootlets, and my wife as soon as she opened the package cried out with joy, "All are living." I put them the same evening in cold frame, and next day they showed some growth, and in three days they developed leaves.

The plants I purchased of you last year also overlived the voyage. Out of the six or seven dozen only eleven plants died; they had a very hard year, as we had two heavy hail storms. I have about two hundred strong plants now, with many fruit stems, and some are blooming, but I only let a few of the berries ripen, as I want more plants from them.

It is now too late, or I would willingly try to send you some plants grown from those you sent me a year ago, just to show how nice they look after a long voyage. My berries are always the best on the market. Please give me some instruction on growing in the hedge row.

Yours truly,
R STRIMPL.

VISITORS.

We wish it were possible for every reader of this book to visit our plant farms and breeding beds so he could see the strawberry plants in all their glory. A great number of our customers from nearly every state as well as Canada visit us each year, and we take great pleasure in entertaining and showing them around the farm. If you can come we will make a special effort to see that your visit is pleasant as well as profitable. One thing sure we will guarantee to show you the greatest exhibition of strawberry plants in the world; single rows almost a mile long and straight as an arrow and a perfect sea of the beautiful green foliage. Our breeding bed where all selections are made and where plant breeding is carried on is a sight well worth seeing, especially to those interested along the lines of improvement. Remember you are entertained free either at the best hotel or at our residence, which ever is the most agreeable and pleasant to the guests. Just think it over and let us know if you can come so we can meet you at the train; if not convenient to advise us of your coming,, the bus is always at the depot on arrival of each train, and conveys visitors to our grounds at our expense.

A. PLANT. CIRCLE.

A continuous vigorous growth is only obtained when the digestive organs are in a healthy condition, and to keep the digestive organs in a healthy condition we must keep

OUR GENERAL OFFICE.

The work in our general office is under the direction of Mr. L. M. Kellogg, assisted by an experienced corps of careful clerks. Twice each day as the mail, consisting some days during the busy season of over nine hundred letters and postal cards, is delivered by the carrier, a trusted clerk opens and sorts it over and delivers that belonging to the correspondence, book, order, and personal department to the one in charge of each section. Thus with a well planned and carefully carried out system every day finds its work completed and very rarely is there a delay in any part.

bacteria active; to keep bacteria active we must supply them with an abundance of air and to supply air, must cultivate. Cultivation forms a dust mulch, a dust mulch retains moisture, moisture dissolves plant food, plant food makes active roots, active roots builds up a big foliage, a big foliage makes perfect digestion and perfect digestion keeps up a continuous vigorous growth.

A PROFITABLE INVESTMENT.

Warroad, Minn., Sept. 20, 1904.

R. M. KELLOGG CO., Three Rivers, Mich.:

Gentlemen: A year ago last May I received from you two hundred pedigree strawberry plants. They were a week on the road, and it was another week before I was able to set them, but they grew right along and flourished. I set them on low ground, on almost clear sand. The patch has been flooded several times, but nothing seems to injure them. We commenced picking berries on June 26th and finished on July 27th. Aside from the berries used in the family, we sold $39.75 worth from the patch, and the new bed of 250 plants set out this spring from your plants bids fair to outdo the old one by a good deal. To say we are pleased with Kellogg's plants is drawing it mildly.

Wishing you success in your good work, I remain,

Yours truly,

O. H. MORSE.

State College of Agriculture.
Lexington, Ky., Jan. 12, 1904.

R. M. KELLOGG CO., Three Rivers, Mich.:

Gentlemen: I want to express my appreciation of your interesting and stimulating plant book just received. It is so suggestive of thorough-going plant culture, that I want to place a copy in the hands of each of my students in horticulture. Can you send me ten copies? I will cheerfully pay the expense, if you will inform me of the amount. Yours truly,

C. W. MATHEWS.

Cornell University, College of Agriculture.
Ithaca, N. Y., March 2, 1904.

R. M. KELLOGG CO., Three Rivers, Mich:

Gentlemen: I have about fifty young men of the Winter course in Agriculture who are taking my work in Horticulture. I should like to give each one of them your Great Crops of Strawberries, and your catalogue. Kindly send me fifty copies for distribution among them. Yours truly,

S. W. FLETCHER.

Cornell University, College of Agriculture.
Ithaca, N. Y., April 2, 1904.

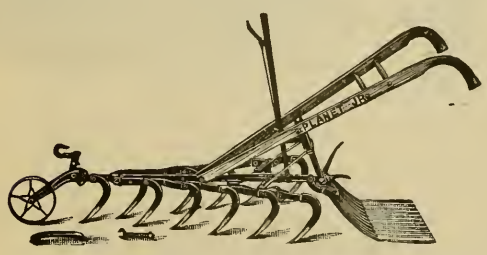
R. M. KELLOGG CO., Three Rivers, Mich:

Gentlemen: I have received from you, in compliance with my request, fifty copies of your book entitled "Great Crops of Strawberries and How to Grow Them," and have distributed them among the members of our Winter course in Agriculture. I thank you very much for sending them. Very truly,

S. W. FLETCHER.

OUR CORRESPONDENCE OFFICE.

It is impossible in a booklet of sixty-four pages to give all of the information necessary for successful strawberry growing, as conditions differ so widely both in climate and soils. We devote our entire time, study, and work to investigating and experimenting along the lines of land cultivation and fertilization, and also plant growth, selection, and breeding. Our library is constantly receiving new additions of books by men of authority on every subject relating to the art of horticulture as well as reports and proceedings of many State Horticultural Societies; in addition to these all of the leading horticultural and agricultural papers are found on our tables, and we spare neither time nor expense to secure the latest and best information, and we cordially invite correspondence with all fruit growers, and will take pleasure in giving to them the benefit of our experience whenever it will be of service to them. Our large correspondence gives us practically an experiment station in every community in the country and we learn of methods of work, of the varieties tried in each locality and the results obtained. Write us at any time, giving particulars, and we shall be able to give you the information sought. While we have efficient stenographers our working hours are long and we are obliged to ask our enquirers to be brief. Omit all personal matters and no one need apologize for writing. State your questions clearly and pointedly on a sheet of paper separate from your letter if one is written, and that will enable us to make prompt replies to everybody. We shall be especially glad to learn in a concise form of any experiences you may have had of fruit growing and the results obtained. Be sure your name and postoffice address is plainly written and in full. We are frequently obliged to guess at names and addresses and sometimes they are not given at all. Do not hesitate to write us if you think we can help you in any way.



PLANET JR. TWELVE TOOTH HARROW, CULTIVATOR AND PULVERIZER. Price complete $8.50

This tool has rapidly grown in favor among strawberry growers, market gardeners, truckers and farmers. This is because the twelve chisel-shaped teeth do such thorough work, yet without throwing earth on small plants, and because the tool is so convenient, durable and strong. The combination of teeth and pulverizer leaves the ground in the finest condition. The pulverizer used with the lever wheel also enables the operator to set the tool exactly to any depth desired, making delicate work not only possible, but very easy. It is invaluable in narrow rows and fine work in market gardens and close work on the farm.

The great importance of fine, close work is more fully appreciated of recent years, and frequent cultivation of the surface with numerous fine teeth, which do not hill the crops, is just what is wanted in many sections.

One trucker tells us he sets his tool to run shallow by means of the wheel and pulverizer, and then he has one of his boys use it continually. He says it keeps down the young weeds while cultivating close up to the plants without danger to them, and the surface stirring of this character is so satisfactory that he intends to use the twelve-tooth harrow a great deal more in the future.

Description. This tool is now made with our improved handle braces, which so stiffen the frame and handles as to make it seem twice as strong as ever, while the handles not only change in height to suit everybody, but also *sidewise.* It is a great advantage to be able to move the handles to one side when cultivating blackberries, raspberries, vines, hops, etc., saving the hands, the clothes and the crop. The expander is of the latest improved pattern, *the same as No. 8 Horse Hoe;* it works with ease, *yet holds the tool thoroughly* rigid.

THE STRAWBERRY GROWER finds this tool invaluable, as it works so close and so thoroughly, deep or shallow as wanted, without throwing earth on the plants. He uses it to keep the ground loose and clean, and to *work up and bed the runners;* the *round-throated teeth* lift and turn them aside without injury, and ready to root in the mellow soil.

FARMERS AND GARDENERS use the harrow in deep or close cultivation, or when desiring to work the crop thoroughly, but without hilling.

IN HARMONY.

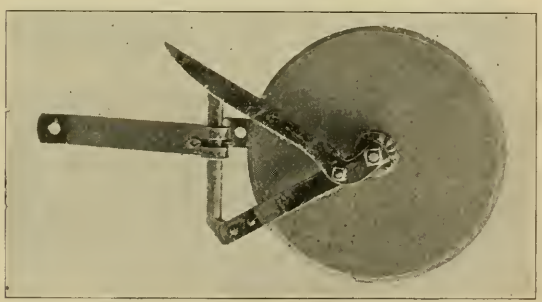
The men on the R. M. Kellogg Co.'s farm had an ice cream and cake picnic on the residence lawn today noon. Messrs. Kellogg and Beatty discovered a day or two ago that there was a little fun on hand among their men as they noticed the boys taking up a collection among themselves, so they chipped in liberally also, and at noon when the men came from the field they found their emp'oyers had arranged tables on which were placed big cakes made by Mesdames Kellogg, Beatty and Musse man, who also had provided hot coffee. The men were seated at the table and the ladies served them.

While Mr. Silliman, our leading photographer, was arranging for their picture several barrels of fun were opened and everybody just pitched in for a good time, forgetting that there was such a thing as work. Messrs. Kellogg and Beatty are proud of their men and the men reciprocate their feelings. There never was a better or more trusty set of workmen employed by any firm, many of them having been employed on this great farm for years, and are experts on cultural methods. Mr. C. C. Musselman is the foreman and is certainly efficient. To anyone visiting this farm and seeing how pleasantly and systematically everything goes, it appeals to them more like a family affair than one of purely business. From the Three Rivers Daily Hustler, Aug. 4, 1904.

DEPTH REGULATION. This is done in the most perfect manner *by the combination of the lever wheel and the pulverizer*, both of which are easily and quickly adjusted.

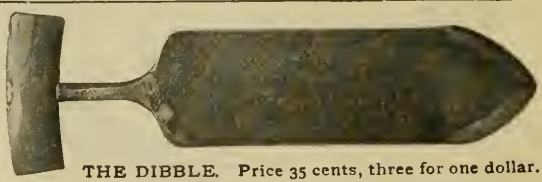
THE FOOT LEVER PULVERIZER is an admirable tool for preparing ground for the seed drill or for plant setting. THE HAND LEVERS regulate both width and depth instantly. The tool expands to thirty-two inches and contracts to twelve.

Send for our Special Catalogue.



ROLLING RUNNER CUTTER AND LEAF GUARD

Price $1.75.



THE DIBBLE. Price 35 cents, three for one dollar.

Every berry grower and gardener should have these dibbles; they are the best tool made for setting strawberry and vegetable plants. We have used many different tools for setting and find the dibble the most practical; we now use them exclusively on our farms. We can furnish them to our customers at 35 cents each; they are substantially made, and nicely finished and with proper care, will last a life time They can be sent in same package with plants by express or freight.

Council Bluffs, Iowa, Sept. 26, 1904.

R. M. KELLOGG CO., Three Rivers, Mich.:

Gentlemen: Last spring I purchased 10,000 pedigree strawberry plants from your breeding farm and set them in a piece of ground on which vegetables had been grown the previous year. I followed the instructions given in "Great Crops of Strawberries and How to Grow Them," and the plants grew vigorously and are now pronounced by everyone to be the finest field of young strawberries ever grown in this section of the country.

I will want 10,000 or more of your plants for next spring's setting.

Very respectfully yours,
J. A. ALBAUGH.

BEATTY'S CELEBRATED STRAWBERRIES

Grown on **THOROUGHBRED PEDIGREE PLANTS.**

HIGH COLOR

FRANK E. BEATTY.

FRANK E. BEATTY'S STRAWBERRY HOME AT COVINGTON, INDIANA

RICH FLAVOR

TRADE MARK.

Dealers Using This Crate in Displaying Any Other Than Beatty's Celebrated Berries Will Be Infringing on My Trade Mark.

Frank E. Beatty, Covington, Indiana.

BEATTY'S LABEL AND TRADE-MARK

This is the label that made Frank E. Beatty's berries famous; no arguing about the quality or price when a case of berries bears this label; it guarantees everything that goes to make up an ideal, fancy, selected box of berries. Beatty's motto, "Never pack berries in a way that cannot be guaranteed, and never guarantee unless I intend to make my guarantee good." There is only one way to do business; that is, on business principles. Be honest with your customers and exact honesty from them.

J. D. ULRICH AND HIS THREE ACRES OF STRAWBERRIES, THREE RIVERS, MICH.

This engraving shows Mr. Ulrich cultivating his three acres of thoroughbred strawberry plants with a little hand plow. He is sixty years old and does all the work alone. Manure is hauled in the winter and all the plans laid, and when spring opens up he is ready for business. The plants are set in his young orchard, growing big crops of berries, while the trees are coming into bearing. All the cultivating and hoeing is done by hand, no horse used except to plow the ground. A weed never gets a chance to peep its head above the surface. Mr. Ulrich went in debt for this little farm and has never missed a payment; this shows what one man can do. Where there is a will there is a way. You can either be a wage earner all your life or you can have a business of your own.

IRRIGATING MACHINERY ALL READY WHEN NEEDED.

This is our irrigating building, where the 25 horse power engine and the centrifugal pump are located, making everything puff and jump. 700,000 gallons per day can be brought to the plants during any hot dry weather. This keeps them in a perfect growing condition; they are not allowed to lay or become checked for a single day; a perfectly balanced plant can only be developed by making perfect conditions.

ARE WE ADAPTED TO BERRY GROWING?

We get many letters each year from men of almost every vocation asking if we think they could make a success at growing strawberries. In these letters they explain their situation and the nature of present occupation. In answering, we most invariably ask if they have any particular love for berry growing, or is it merely the profits which other growers are making that prompts the change. It is true that profits should be considered before entering into any business; but in our estimation this is not the primary object by any means. Love for the work is the first thing to be thought of and should have as much consideration as anything else. This world is beautiful and we should endeavor to make each home a paradise and this can be done by combining love with profitable labor, for wherever love exists there is happiness; where these conditions are, there is enthusiasm; mixing love, happiness and enthusiasm, in equal proportions, makes the highest grade of financial stimulant, and when properly applied to any business, will give a growth beyond our greatest expectations.

NUMBER OF PLANTS REQUIRED TO SET ONE ACRE.

Rows	24	in.	apart	and	20	in.	in	the	row,	13,160
"	30	"	"	"	24	"	"	"	"	8,712
"	30	"	"	"	30	"	"	"	"	6,970
"	30	"	"	"	36	"	"	"	"	5,808
"	34	"	"	"	30	"	"	"	"	6,150
"	36	"	"	"	30	"	"	"	"	5,808
"	42	"	"	"	24	"	"	"	"	6,223
"	42	"	"	"	20	"	"	"	"	7,468
"	48	"	"	"	20	"	"	"	"	6,534
"	48	"	"	"	18	"	"	"	"	7,260

THE BEAUTIFUL HOME OF C. G. COX

Just look at this picture and see what a handsome strawberry bed Mr. C. G. Cox grows for his family that they may be supplied with the choicest berries, fresh from the vines, every day. Mr. Cox is a bookkeeper at the First National Bank of our city, and he says he gets the much needed out-door recreation while caring for his thoroughbred plants. Not a weed to be seen. It isn't necessary for us to mention that this young man takes great pride in his home; the lovely surroundings tell the story.

Jelly. Jam. Fresh. Canned. Preserved.

TWENTY-SIX WAYS OF PREPARING THE STRAWBERRY FOR THE TABLE.

The following receipts have been selected from a large number which have been tested, and we are sure they will be valuable to all lovers of the strawberry.

SAMPLE AND DORNAN.

A glass of these won't hurt anyone, for "they doeth good like a medicine." This kind should be sold by the pound rather than by the quart.

THE FAMOUS WEISBADEN STRAWBERRY PRESERVES.

Have two kinds of fruit, one the finest, largest, most perfect specimens; the other just good, ordinary fruit. To each quart of the latter allow half a pound of sugar. After hulling the berries sift the sugar through and over them and let them stand in a cold place over night. A low temperature is necessary to prevent any possible fermentation.

In the morning drain off the juice, not quite dry, leaving enough so the berries can be made into marmalade or jam, thus preventing waste of the fruit. For every half pound of sugar you have used allow half a pound of rock candy. Put the candy into the juice and let boil fifteen minutes.

In the meantime test your cans to make sure they are perfect; warm them and stand them on a folded towel in a big pan; then turn a couple of inches of warm water into the pans. Fill the cans with the superior fruit, rejecting every bruised, imperfect and unripe berry. Pack the fruit as solidly as you can without jamming it, shaking it down well, and fill the cans with the boiling syrup. Seal immediately. Keep in a dark place.

This is the exact process by which the imported fruit is put up, and if the directions are exactly followed is a safe method, the fruit keeping perfectly..

The Warfield is the best choice among varieties of the strawberry to put up this way on account of its rich but acid flavor, and also because of its deep red color, which gives a prettier color to the preserves.

STRAWBERRIES CANNED.

For every quart of fresh, firm berries allow one teacupful of granulated sugar. Add the sugar in layers and allow the fruit to stand covered for an hour. Bring slowly to the boiling point and let simmer two minutes.

Do not stir the fruit, and when done dip carefully into cans and seal.

FANCY SHORTCAKE.

Pour one cupful boiling water over two cupfuls sugar, boil for five minutes, then cool. Separate the whites from yolks of four eggs and beat the yolks until thick; then add the syrup to them, beating constantly; now add two cupfuls flour sifted with one and one-half teaspoonfuls baking powder; add a pinch of salt and one teaspoonful lemon juice, then fold in the whites, beaten stiff and dry; spread in two round layer cake tins, bake in a quick oven; when done, remove to warm platter; spread with fine sugar and berries crushed. Place on top a thick meringue of beaten egg whites, seasoned with sugar; arrange berries about the cake.

BOTTLING SUN-PRESERVED STRAWBERRIES.

Strawberries and raspberries hold the color and shap better when preserved in the sun. Weigh the fruit; to each pound allow three-quarters of a pound of sugar; put a layer of sugar, a layer of fruit, another layer of sugar on a large granite or stoneware platter. Cover with glass and stand in the hot sun. As the sun cools toward evening bring them in; put them out again the next day. Lift each berry carefully with a fork and arrange them neatly in tumblers or bottles. Boil the syrup for five or six minutes, pour it over the fruit, cover with the glass and let them stand all night in a cold place. Next morning cover the jars with melted paraffine, over which stretch tissue paper and fasten it down with white of egg. When the covers are dry brush them over with water.

STRAWBERRY JAM.

Take equal parts of berries and granulated sugar, mash them together, put into a preserving kettle and cook for more than half an hour. Put in jars and when cold seal.

STRAWBERRY TARTS.

Line tart tins with nice puff paste, filling with plum pits, corn or some such thing so they will keep their shape while baking. When done, fill with nice, sweetened strawberries and heap up with whipped cream.

STRAWBERRY JELLY.

Add one-third currant or rhubarb juice to the strawberry juice before cooking, and proceed as for other jellies.

STRAWBERRY SPONGE.

One quart berries, one-half box gelatine, one and one-half cups water, one cup sugar, juice of one lemon, beaten whites of four eggs. Soak the gelatine in one-half cup of water; mash the berries and add half the sugar to them; boil the remainder of sugar and the cup of water gently twenty minutes; rub the berries through a hair sieve; add gelatine to boiling syrup; take from the fire and add berry juice; place the bowl in pan of ice water and beat with egg beater five minutes, add beaten whites and beat till it begins to thicken. Pour into well wet moulds and set on ice. Serve with cream.

STRAWBERRY CREAM.

Mash one quart berries with one cup powdered sugar and rub through fine sieve; dissolve one and one-half ounces gelatine in one pint sweet milk; strain and add one pint whipped cream and the berry juice. Pour in a wet mould and set on the ice to form.

STRAWBERRY JELLY.

One quart of strawberries, one large cup of white sugar, juice of one lemon, one-third of a package of Cox's gelatine, soaked in one cup of cold water, one pint of boiling water; mash the strawberries to a pulp and strain through coarse muslin. Mix the sugar and lemon juice with the soaked gelatine, stir up well and pour over them the boiling water. Stir until clear; strain through a flannel bag, add the strawberry juice; strain again without shaking or pressing the bag. Wet a mold with cylinder in center in cold water; fill it and set it in ice to form. Turn out upon a cold dish; fill with whipped cream made quite sweet with powdered sugar and serve at once. It is very fine.

PLAIN SHORTCAKE.

One quart sifted flour, one-half cup butter and lard mixed, two teaspoons baking powder, sweet milk enough to make a soft dough. Divide in three equal parts, roll out, spread melted butter on each and place on top of each other and bake.

ORANGED STRAWBERRIES.

Place a layer of strawberries in a deep dish, cover thickly with pulverized sugar; then a layer of berries and so on until all are used. Pour over them orange juice in the proportion of three oranges to a quart of berries. Let stand for an hour, and just before serving sprinkle with pounded ice.

STRAWBERRY MANGE.

Crush two teacupfuls of very ripe berries with a cup of granulated sugar. Press through a fine strainer to remove the seeds. Beat the whites of four eggs so stiff that the dish may be inverted without spilling the contents. Add gradually half a cup of powdered sugar. Next beat in the juice by degrees, and continue until the mass becomes so stiff it stands in ragged peaks Serve with a soft custard made of the unused yolks, cup and a half of milk and four tablespoonfuls of sugar cooked in a double boiler until thick as cream. Pour the custard into a pretty dish and slip the mange upon it while the custard is hot.

FROSTED STRAWBERRIES.

Beat the white of an egg for a minute or so. Dip the berries one by one into the beaten white, roll in powdered sugar and let dry.

STRAWBERRY MOUSSE.

To a pint of double cream add the juice of a lemon and a cup of strawberry preserve. Beat until thick to the bottom of the bowl. Have ready a three-pint mould lined with lemon, orange or pineapple sherbet. Put the Mousse mixture into the center and cover with more sherbet. Adjust the cover over paper and pack in equal parts of ice and salt. Let stand about two hours. Lining the mould with sherbet may be omitted, but it is a great improvement to the dish. Thus lined, it is removed from the mould with ease.

STRAWBERRY PIE.

Make a good crust, not too rich, for the undercrust, and one more rich for the upper.

Fill the pie well with berries, sprinkle generously with flour, then the sugar. Put no water in the pie, but dip the finger tips into water and wet the undercrust all around the edge, running the fingers around until a sort of paste is formed, then put on upper crust and press down firmly. Do not bake too quickly.

SUN PRESERVES.

To three quarts of cleaned berries use two quarts of sugar.

Make a thick syrup of the sugar and when it is boiling up like taffy turn the berries in and after they begin boiling, let them boil briskly for twenty minutes. Turn out into platters or shallow dishes, putting just a layer of berries and a plenty of juice on each dish. Set them in the hot sun until evening, then bring in, let stand until morning and fill into nice clean (and cold) jars or glasses and seal.

Any surplus juice may be put out into the sun until it turns to jelly.

STRAWBERRY AND RICE PUDDING.

Boil half a cupful of rice in milk until done. When nearly cool stir gently in fine ripe strawberries. Sweeten to taste. Serve with a nice custard or whipped cream.

STRAWBERRY TAPIOCA.

Take one cup of pearl tapioca, cover with a pint of cold water and soak two hours. Put it over the fire, add one pint of water and sugar to taste. Cook about thirty minutes or until clear. Pour this while hot over a quart of stemmed strawberries and put by to cool. Serve with powdered sugar and cream.

STRAWBERRY SHRUB.

Pour three quarts of best cider vinegar over nine pounds of fine, ripe strawberries, let it stand for twenty-four hours, then bring to a boil and strain, add a pint and a half of sugar for every pint of juice, boil together five minutes, then strain again. Put up in self-sealing pint cans. A tablespoonful or two added to a glass of water makes a grateful and refreshing drink.

FRUIT PUNCH.

Sugar syrup rather than sugar in a crude form is preferable for sweetening any kind of beverage and is especially desirable when the foundation of the beverage is a fruit juice or a combination of several varieties of fruit juice, as is usually the case.

Boil three pints of water and three cups of sugar twenty minutes. When cold add a pint of strawberry juice, a cup of orange juice, the juice of three lemons and one quart or more of water.

STRAWBERRY FRAPPE.

One quart of fine, ripe fruit, put through a press, and one pound of sugar; let stand until the sugar is dissolved, then add a quart of water and freeze until thick, but not stiff.

STRAWBERRY WINE.

Using overripe berries, mash them thoroughly and let stand forty-eight hours. Then press the juice off. To every two quarts of juice add one quart of water. Put in four pounds of granulated sugar to each gallon of the mixture and put in keg or jug and let it ferment three days, then put siphon tightly in the keg, letting one end of siphon extend into a jar of water; this allows the gas to escape from the wine, but no air to get into the keg, which would spoil the flavor. Let stand six months, then draw it off into a clean keg.

STRAWBERRY SHERBET.

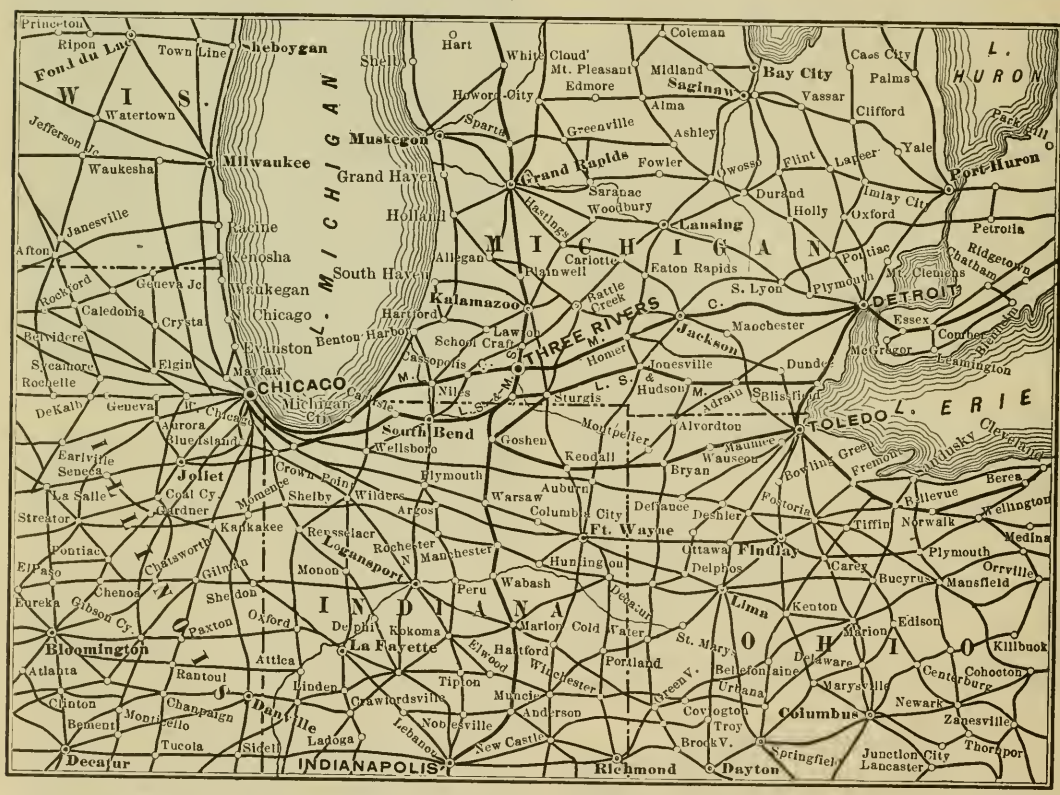
Boil together one quart of water and one pint of sugar fifteen minutes. Add a teaspoonful of softened gelatine and when cold strain over one pint of strawberry juice and the juice of a lemon. Freeze in the usual manner.

STRAWBERRY SAUCE.

One-third cup of butter, one cup powdered sugar, one teaspoon lemon or orange extract. Cream the butter, add sugar gradually and flavoring. To this add one cup strawberry pulp and the lightly beaten white of one egg. Chill thoroughly.

STRAWBERRY SAUCE.

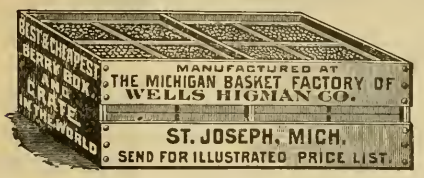
Cream together butter and powdered sugar. Add flavor and when ready to serve mix in one or two crushed berries to tint the sauce. Add also a generous quantity of hulled berries cut in slices.



THIS MAP shows our location in the Michigan Fruit Belt on two great railroad systems, with several fast through express trains daily, delivering freight the same night it leaves here to Chicago, Toledo, Indianapolis and Detroit, where plants are sent in fast through freights to St. Louis, Kansas City, Omaha, St. Paul, Cincinnati, Cleveland, Buffalo and all intermediate points.

Place your orders early so that plants may be sent while dormant and weather cool. If to be forwarded by freight, it is advisable to confer with your local freight agent as to time from above named points. Give full directions and route for shipment.

Special Notice. Please note the fact that express companies give a special discount to nurserymen of twenty per cent. and pound rates, so that you pay only for the exact number of pounds the packages weigh; thus you can send here for your thoroughbred strawberry plants and elsewhere for any bush fruit you may want without any additional expense for expressage.



BASKETS AND BERRY BOXES.

For many years past we have bought all our fruit packages of the WELLS-HIGMAN CO., OF ST. JOSEPH, MICH., and knowing them to be among the most extensive and reliable manufacturers in their line we take pleasure in recommending them to anyone who may be in need of any BERRY BOXES OR OTHER SHIPPING PACKAGES. They also manufacture the American basket for shipping berries, and many prefer them to the Hallock boxes. Their goods are strictly first-class, and fruit growers who are not acquainted with this firm should correspond with them. They will mail their illustrated catalog free on application. They are headquarters for grape, peach and melon baskets and have factories in the south as well as in Michigan.

COPY OF ORDER

Always keep a copy of your order. See that your order is on file at once, so you will be sure to get all the varieties wanted and have your plants come early.

You will find a world of pleasure in studying plant life, and in this we wish you a hearty God speed.

Send for our special catalog of garden tools and cultivators.

Memorandum of Plants Ordered, Date.....

NUMBER OF PLANTS	VARIETIES,	PRICE $	PRICE Cents

JAN 21 1905

PRICE LIST OF STRAWBERRY PLANTS.

Read carefully before making out your order.

When 500 or more plants of one variety are ordered, we give thousand rates on that variety; but we do not combine several varieties to make up the number 500 plants in order to give thousand rates. There are no discounts on the prices given, and all purchasers are treated alike. We leave nothing undone in order to grow the best plants possible, and the prices stated are the lowest at which they can be furnished. When plants are to be sent by mail, add at the rate of 25 cents per hundred to the list prices given, and to Canada add at the rate of 50 cents per hundred. No orders accepted for less than one dollar. Not less than 25 of any variety sold, as less than that number is not sufficient for a fair test. Be very careful to get the prices right.

EXTRA EARLY VARIETIES

Varieties	For 25	For 50	For 100	For 200	For 300	For 400	For 500	For 1000
Excelsior (B)	$0 20	$0 25	$0 50	$0 75	$1 00	$1 25	$1 50	$3 00
Climax (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
August Luther (B)	25	30	60	95	1 25	1 50	1 75	3 50
Johnson's Early (B)	25	30	60	95	1 25	1 50	1 75	3 50
Michel's Early (B)	20	25	50	75	1 00	1 25	1 50	3 00
Palmer (B)	40	50	1 00	1 75	2 25	2 75	3 00	6 00
Texas (B)	30	35	70	1 20	1 65	2 10	2 50	5 00

EARLY VARIETIES

Bederwood (B)	20	25	50	75	1 00	1 25	1 50	3 00
Clyde (B)	25	30	60	95	1 25	1 50	1 75	3 50
Cumberland (B)	25	30	60	95	1 25	1 50	1 75	3 50
Lovett (B)	25	30	60	95	1 25	1 50	1 75	3 50
Tennessee Prolific (B)	20	25	50	75	1 00	1 25	1 50	3 00
Wolverton (B)	20	25	50	75	1 00	1 25	1 50	3 00
Crescent (P)	20	25	50	75	1 00	1 25	1 50	3 00
Warfield (P)	20	25	50	75	1 00	1 25	1 50	3 00

MEDIUM VARIETIES

Lady Thompson (B)	25	30	60	95	1 25	1 50	1 75	3 50
Ridgeway (B)	25	30	60	95	1 25	1 50	1 75	3 50
Glenn Mary (B)	25	30	60	95	1 25	1 50	1 75	3 50
Wm. Belt (B)	25	30	60	95	1 25	1 50	1 75	3 50
Splendid (B)	25	30	60	95	1 25	1 50	1 75	3 50
Parson's Beauty (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Klondike (B)	25	30	60	1 00	1 35	1 70	2 00	4 00

PRICE LIST OF STRAWBERRY PLANTS — Cont.

MEDIUM VARIETIES

Varieties	For 25	For 50	For 100	For 200	For 300	For 400	For 500	For 1000
Monitor (B)	$0 25	$0 30	$0 60	$1 00	$1 35	$1 70	$2 00	$4 00
Miller (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
Nick Ohmer (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
New York (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Up-to-Date (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Senator Dunlap (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Haverland (P)	25	30	60	95	1 25	1 50	1 75	3 50
Enormous (P)	25	30	60	95	1 25	1 50	1 75	3 50
Kansas (P)	25	30	60	95	1 25	1 50	1 75	3 50
Hero (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
Downing's Bride (P)	40	50	1 00	1 75	2 25	2 75	3 00	6 00
Pride of Michigan (B)	50	85	1 25	2 10	2 85	3 50	4 00	8 00
Sutherland (P)	30	35	70	1 20	1 65	2 10	2 50	5 00
President (P)	50	85	1 25	2 10	2 85	3 50	4 00	8 00
Challenge (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
Arizona, Ever-bearing (B)	50	85	1 25	2 10	2 85	3 50	4 00	8 00

LATE VARIETIES

Aroma (B)	25	30	60	95	1 25	1 50	1 75	3 50
Brandywine (B)	25	30	60	95	1 25	1 50	1 75	3 50
Bismarck (B)	25	30	60	95	1 25	1 50	1 75	3 50
Gandy (B)	25	30	60	95	1 25	1 50	1 75	3 50
Dornan (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
Marshall (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Maximus (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Parker Earle (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Rough Rider (B)	25	30	60	1 00	1 35	1 70	2 00	4 00
Bubach (P)	25	30	60	1 00	1 35	1 70	2 00	4 00
Seaford (P)	25	30	60	1 00	1 35	1 70	2 00	4 00
Sample (P)	25	30	60	1 00	1 35	1 70	2 00	4 00
Oregon Ironclad (B)	40	50	1 00	1 75	2 25	2 75	3 00	6 00
Midnight (B)	30	35	70	1 20	1 65	2 10	2 50	5 00
Mark Hanna (P)	40	50	1 00	1 75	2 25	2 75	3 00	6 00

Roller Runner Cutter.....**$1.75** **Dibble**.....**35 cents, 3 for $1.00**

These tools can be shipped with plants.

*Page*_____ *No.*_____

R. M. KELLOGG CO., THREE RIVERS, MICHIGAN. SEND ORDER ON THIS SHEET.

Write number of plants on left of varieties.
Write all Questions on a Separate Sheet.

*Name*_____
(VERY PLAIN)

*Post Office*_____ *Rural Route No.*____

*County*_____ *State*_____

*Name of Town for Freight or Express*_____ *Ship by*_____
(Say whether to be sent by freight, express or mail)

LEAVE VACANT	No. of Plants	VARIETY	Price $	Price Cts.
		EXTRA EARLY		
		Excelsior (B)		
		Climax (B)		
		August Luther (B)		
		Johnson's Early (B)		
		Michel's Early (B)		
		Palmer (B)		
		Texas (B)		
		EARLY		
		Bederwood (B)		
		Clyde (B)		
		Cumberland (B)		
		Lovett (B)		
		Tennessee Pro. (B)		
		Wolverton (B)		
		Crescent (P)		
		Warfield (P)		
		MEDIUM		
		Lady Thompson (B)		
		Ridgeway (B)		
		Glenn Mary (B)		
		Wm. Belt (B)		
		Splendid (B)		
		Parson's Beauty (B)		
		Klondike (B)		
		Monitor (B)		
		Miller (B)		
		Nick Ohmer (B)		
		New York (B)		
		Up-to-Date (B)		
		Senator Dunlap (B)		
		Haverland (P)		
		Total first column		

LEAVE VACANT	No. of Plants.	VARIETY	Price $	Price Cts.
		Enormous (P)		
		Kansas (P)		
		Hero (B)		
		Downing's Bride (P)		
		Pride of Michigan (B)		
		Sutherland (P)		
		President (P)		
		Challenge (B)		
		Arizona (B)		
		LATE		
		Aroma (B)		
		Brandywine (B)		
		Bismark (B)		
		Gandy (B)		
		Dornan (B)		
		Marshall (B)		
		Maximus (B)		
		Parker Earle (B)		
		Rough Rider (B)		
		Bubach (P)		
		Seaford (P)		
		Sample (P)		
		Oregon Iron Clad (B)		
		Midnight (B)		
		Mark Hanna (P)		
		Dibble		
		Runner Cutter		
		Amount in first col.		
		Total amount sent		

NOTICE TO PATRONS

The plants herein offered are propagated from **Pure Pedigree Plants** and ideal plants, as explained in the chapters on "Improvement of Plants." We are confident they are the only plants obtainable propagated in this manner, and that their fruiting vigor cannot be equaled. While we practice the highest cultivation we know how to give, we have demonstrated that the vigor of our plants has been the basis of our success. By all means start a propagating bed this season

ORDERS MUST AMOUNT TO ONE DOLLAR

The correspondence, postage, booking and filling orders for less than that amount is done at a loss.

TAKING UP STRAWBERRY PLANTS

The whole row of plants is taken up, and all those poorly rooted are thrown out. The fork used for the purpose is so constructed that plants are not bruised or roots broken off. All dead leaves and stems are picked off and roots straightened by such a system that from the time they leave the ground until they are ready for shipment they are not exposed a half minute all together.

SUBSTITUTION

We desire to furnish each customer exactly what he orders, but sometimes find the variety all sold before his order is reached, all orders being filled in the rotation in which they are received and booked. If no substitution is permitted, we are obliged to disappoint the customer by returning the money late in the season. There are several varieties in the same season and of equal value, and if we are out of the variety ordered and substitution is permitted, we will add 10 per cent. to the plants substituted. Unless you expressly state "**no substitution,**" we will understand you desire your order filled as above stated. There is very little danger of not getting the varieties desired, if orders are sent in early.

PRICE OF PLANTS

The prices quoted are net, and the lowest at which they can be grown and placed on the market. This list abrogates all former price lists. No charge will be made for packing, crates or boxes, and delivery to forwarders. No plants sold for fall planting. Not less than 25 strawberry plants of any variety will be sold; it requires that number for a fair trial.

NO AGENTS

We employ no agents. Scores of complaints come to us every year saying, "The plants I bought of your agents are worthless." Tree peddlers secure copies of this book and represent themselves as our agents, and then deliver common stock, to the loss and disgust of purchasers. Put all such parties down as frauds. You can only get the genuine thoroughbred plants by sending direct to us. Strawberry plants will not endure the exposure of handling with trees and other plants in delivering orders and carrying around the country after the packages are opened.

MAKE UP A CLUB

You can join with your neighbors in getting up a club and get the benefit of thousand rates on all varieties of which five hundred or more of each kind are ordered. The club order must be shipped to one address. Each bundle of twenty-five plants being labeled, the division is easily made. Catalogues will be sent to any of your neighbors on request, to aid in making up the club.

TERMS

Strictly cash with order. No orders are booked unless one-third the amount is remitted and balance before shipment.

ORDER EARLY

All orders are filled in the rotation in which they are received, hence the earlier they are sent in, the better.

HOW TO REMIT

Send money by postoffice order, bank draft, express order, or registered letter. We cannot be responsible for money sent loose in a letter. When private checks are sent, add fifteen cents to cover the cost of collection.

REFERENCES

All banks, wholesale houses and manufacturers use the Commercial Reports of R. G. Dun and Bradstreet, and you can see them by request. These reports place our capital at $35,000.00 and credit rating the highest given by any one on that amount of capital.

Special references: First National Bank or any merchant in this city.

PLANTS BY MAIL

When plants are to be sent by mail, add at the rate of twenty-five cents per hundred to the list prices given; and to Canada at the rate of fifty cents per hundred.

The plants are packed in moss and go perfectly safe, arriving in perfect condition. We send plants by mail only at prices given for twenty-five, fifty and one hundred, and not at thousand rates.

EXPRESS RATES

Express charges are twenty per cent less than general merchandise to any part of the country. All small orders are generally cheaper by express than freight, as only pound rates are charged, while railroads charge for one hundred pounds without regard to weight when sent by freight.

FREIGHT

Our railroad connections are first-class. Plants leaving here at six o'clock in the evening arrive in Chicago, Toledo and Detroit the same night, and from these points they go in fast through freights to all principal cities and intermediate points. It is seldom they fail to arrive on time, but sometimes delays occur, and when notified they are behind time, we hurry them forward by telegraphic tracers. We advise purchasers to consult local freight agents as to time and give the route over which you wish them sent by freight. If no shipping directions are given, we exercise our best judgment without assuming any responsibility.

GUARANTEE OF GENUINENESS

The plants being propagated in special beds and labeled when taken up, would seem to preclude the possibility of mistake, and we guarantee plants to be true to label, with express understanding that if a mistake happens we are not to be held for any damages beyond the amount received for the plants.

GUARANTEEING RESULTS

We send plants to the most distant states, with entire success, to anybody and everybody who orders them. We are exceedingly anxious that they shall meet their highest expectations, and to this end will do all in our power to contribute to success. But after they are delivered to express companies or railroads, they belong to the purchasers and we have no control over them. We do not know what treatment they are to receive, hence you can readily see why we cannot, and do not, guarantee any results whatever. Our responsibility ceases when delivered to express or railroad.

CLAIMS

All claims must be made within five days of the receipt of plants, when they will be investigated and if not found correct will be promptly adjusted.

ORDERS ARE ACKNOWLEDGED

As soon as received. If you do not hear from us after a reasonable time, write again.

NOTICE

This Booklet will be revised every year, and sent out free to all who are interested in it. Do not loan it but keep it for reference. If you want one sent to a friend, send his address on a postal card, and we will mail it with your compliments, so he will know who sent it. Our object is to place fruit growers in possession of such facts concerning plant life and the laws which govern the development of fruit as will enable them to succeed. Our success depends on your success. The number of copies one person can order is limited to four.

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THEY GROW

BIG RED BERRIES